ATHLETIC JOURNAL

VOL. XXXV No. 5 January, 1955

Jan. '55

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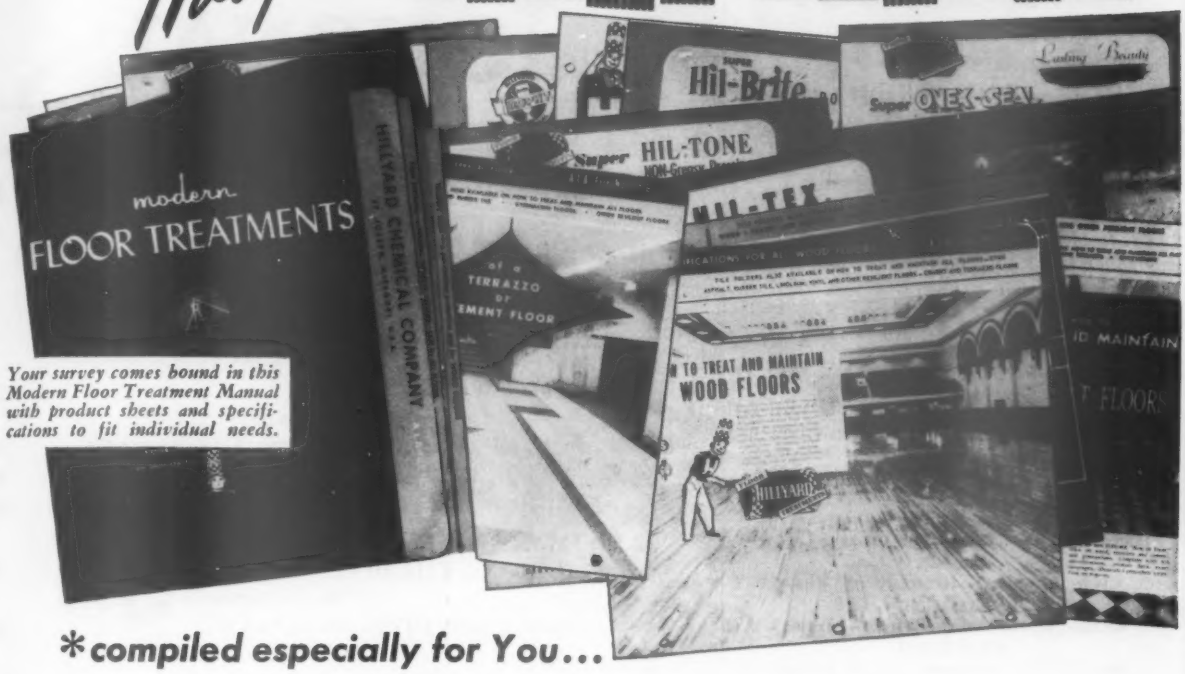

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The ATHLETIC JOURNAL

Nation-Wide Amateur Athletics

Volume XXXV **Number 5**

January, 1955

FRONT COVER ILLUSTRATION

The North Side Gymnasium at Elkhart, Indiana, the "world's" largest gymnasium, was dedicated on December 3 at a game with nearby Goshen. This picture was taken the following Sunday at a city-wide Vesper Program at which Robert Vogeler was the principal speaker. The picture was taken for the Athletic Journal by Chet Gebert, staff photographer of the "Elkhart Truth."

NOW! The "Twins of the Majors" are NCAA "OFFICIAL," too!

These "Twins of the Majors" have gained *greater* recognition than ever!

The NCAA has voted the Spalding baseball *OFFICIAL* for the National Collegiate Baseball Tournament, scheduled for June 10-14 in Omaha, Nebraska.

This is the same great ball that has been official in the National League for 77 years!

It's a real champion . . . like its twin, the Spalding-made *Reach* ball, official with the American League since the league was organized in 1900.

These are the *best* baseballs made. And, they've proved it by remaining the *only* official baseballs of the National and American Leagues.

Are you using them? You should be . . . for your teams play their best when their equipment is the best. AND, THE BEST BY FAR, is SPALDING!

SPALDING sets the pace in sports

from here and there

ONE of the stories making the rounds is about the football coach who was applying for a position and was being interviewed by the president of the school. As the interview progressed the president inquired what method the coach used in selecting his team. "Well," replied the coach, "I take the squad into the woods and turn them loose. Those that run through the trees I make linemen, those that run around the trees I make backs." The president inquired about those that climbed the trees. "Oh," replied the prospective head coach, "those become officials." . . . Clair Bee, long time basketball coach at Long Island University and of the Baltimore Bullets, has been appointed athletic director and basketball coach at New York Military Academy . . . All of the basketball coaches in the Atlantic Coast Conference, with the exception of Banks McFadden of Clemson, coached high school basketball. McFadden was all-American in both football and basketball and still holds three state intercollegiate records in track . . . In 1929 Port Arthur tied for the football championship of Texas. Four members of that squad are in the coaching profession today. Al Zock is at Crosley, Louisiana; Warren Wyble is at San Antonio; Barton Hinton is at Eagle Lake; and Chick Forewald is at Iowa City . . . Six years ago a tenth of the New York schools had wrestling. Today the figure has risen to 22 per cent . . . When Frank Leahy was assistant coach at Michigan State in 1941 he roomed with a young specialist attached to the Extension Division. His roommate was John Hannah, now president of Michigan State and former Assistant Secretary of Defense.

* * *

PACIFIC COAST Conference schools play a double home and home basketball series with each other. Due to the peculiarities of schedule making, Oregon and Washington State meet four times within the space of eight days . . . Vince Reel, track coach at Woodrow Wilson High School in Long Beach, California, holds the oldest record on the books at his alma mater, Occidental. His time of 23.4 for the low hurdles which was set in 1935 has never been beaten although Occidental is one of the track powers of the country. Reel markets a decathlon kit which has been very well received. Payton Jordan, present track coach at Occidental, has prepared the new loop films on track which are discussed elsewhere in this issue . . . A year ago we reported the fact that Little Rock, Arkansas, High School played four out-of-state opponents in football. This past season they went one better, playing teams from Tennessee (2), Texas, Alabama, Louisiana, and Kentucky . . . Oklahoma has approved 185 basketball tournaments (not state tournaments). Some of these tournaments were held as early as the 7th of October.

* * *

THE administration of an athletic department is a task of no small proportions. For example, the University of North Carolina has an intercollegiate contest scheduled on all but eight days in the month of February, Sundays excepted. Altogether, from the first of December until the end of February there are 80 contests scheduled . . . "Pinky" Higgins, newly named manager of the Boston Red Sox, was named to the All-Southwest Conference baseball team during his three years of varsity eligibility at the University of Texas in 1928, '29, and '30 . . . With the completion of the new $2,500,000 field house at Kansas there will be 13 college field houses that seat more than 10,000 spectators. Five of these are in the Big Ten. Minnesota's is the largest with a capacity of 18,250. The Pacific Coast has three in the five figure bracket; the Big Seven has two. North Carolina State, L.S.U., and Butler are the others . . . In 1947 Max Garret's Illinois fencing team missed the conference championship by half a point. The next year they missed by one point, and the following year by two points. In 1950 Illinois won the conference championship and repeated in 1951, '52, and '53. Thus, a total of three and one-half points separated Illinois from seven conference championships. That's about as fine as you can cut it.

World's Largest High School Gym

By GLENN R. SILCOTT

Athletic Director,
Elkhart, Indiana High School

THE North Side Gymnasium at Elkhart, Indiana, has the largest seating capacity of any high school gymnasium in the world, as far as we know. Its seating capacity is 8,250 and room for more seats is available if it is needed. This gymnasium was built only 100 feet from the North Side Junior High School which was completed in 1953, and it is planned that the two shall be joined by erecting an auditorium between them, using the outside wall of each existing structure as part of the auditorium. The gymnasium is a one and one-half story fireproof structure built of concrete, steel, brick, stone, and wood. In addition to the physical education and athletic facilities, this building contains vocational educational classrooms, concession booths, ticket offices and windows, music room, laundry rooms, radio and TV room, officials' room, coaches' and instructors' offices, storage, public rest rooms, and just about everything one could hope to see in one of the world's most modern gymnasiums. It will be used for band and vocal concerts, conventions, variety shows, ice shows, and other types of entertainment of interest to the citizens of Elkhart.

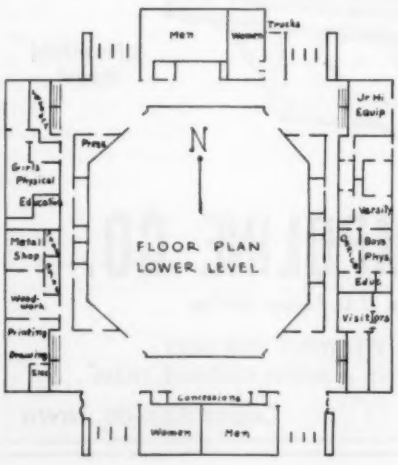
The Need for a Gymnasium

The need for a building such as we now have in Elkhart was not of recent origin. Elkhart's physical education enrollment and basketball enthusiasm had outgrown the available facilities sometime ago. Efforts had been made for several years to erect a modern and sufficiently large physical education building to replace the old one which seats only 1751 people at any athletic event and allows only one class of physical education to be conducted at a time.

Indiana is noted for its basketball enthusiasm and Elkhart is no exception. Elkhart has enjoyed good basketball teams for years. John Longfellow, who is now at Indiana State, produced successful and outstanding teams from 1930 to 1948 and, no doubt, his work and interest in having a new gumnasium during those years did a great deal to promote the final decision to do something about getting things started. Bill Milliner, who is now in the business field, coached the Blue Blazers from 1948 through 1953-54. During those years his teams were very successful. His last team was probably the greatest since it went all the way to the final four in the state finals at Indianapolis.

Financing the Building

A group of civic-minded men decided to organize and try to work out a way to construct for the school city a building that would meet the need which had become so obvious to everyone. Why didn't the school city build it? The school city did have in its files plans for such a building, but was forced to shelve them repeatedly in favor of more urgent needs – classrooms. Because the school city had reached its maximum indebtedness for a building program, it was up to other sources to negotiate for



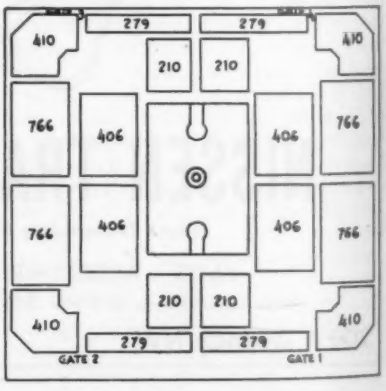


Diagram shows the seating arrangement. All of the stands except those in the corners of the balconies are folding bleachers. Notice in the picture above the parquet flooring in the balconies.

Seating — Brunswick-Balke-Collender Co.

Scoreboards — M. D. Brown Co.

Floor Finish — Huntington Laboratories, Inc.

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the building.

This group of men met and formed a corporation which is called the North Side Building Corporation. This corporation is a holding company. As a corporation they bought the land, constructed the building, and then leased it to the school city for a reasonable sum. After the school city has paid rent over a designated number of years, the gymnasium will automatically become its property. It was estimated that the cost would be around $1,340,000 and the school city would pay it off in 30 years, probably 26. In the meantime all revenue from the sale of tickets and rent of the gymnasium will be available to the school city, and this body will have complete control of its management and upkeep.

Following the initial meeting of the holding company, a petition signed by more than 1200 patrons was presented to the board of education, requesting the board members to enter into negotiations with the holding company and to sell it sufficient land near the North Side Junior High School for the building. Upon the filing of the petition, the board of school trustees determined that sufficient need existed for the building and this was approved by the state superintendent of public instruction.

This North Side Building Corporation has an authorized capital of 5000 shares of common stock with a par value of $5.00. There are 125 shareholders. All of these investors are residents of Elkhart and own different quantities of shares. All directors and officers of the corporation serve without compensation. The shareholders receive absolutely no profit from their investments. Their capital will be returned to them when all bonds are paid. Plans went forward and on July 27, 1953 ground was broken for a new physical education plant for the city of Elkhart.

Description of the Gymnasium

Since the gymnasium is said to be the nation's largest high school basketball plant, we can expect almost astronomical numbers in square feet, seating capacity, and materials. The building is 213 feet long, 184 feet wide, has 22,000 square feet of maple flooring, contains 2,000,000 cubic feet of space, has 20,000 board feet of subflooring, contains 1,000 square feet on the mezzanine and 16,400 square feet on the main floor. Five hundred thirty tons of steel, 216,000 facebricks, and 4,000 cubic feet of concrete were used to provide 8,250 seats for spectators.

The Lobby and Entrances

There are four entrances each having eight doors through which people may enter the building. These form

Illustration shows the permanent seating in the corner balconies and one of the scoreboards. Note space for scoring over 100 points.

This is a view of the officials dressing room. In addition to the shower shown, the room has its own lavatory. The warning signal sounds in the officials room also.

Illustration shows one of four entrances. Each entrance has two ticket windows. The rubber matting in the foreground is recessed into the flooring.

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Folding Gym Seats!

Every feature of Horn Folding Gym Seats is a reason by itself for Elkhart's choice!

SAFETY. All-steel understructure of (A) tubular column supports and (B) cross tie angles and bracing (no sway, shimmy or shaking). Exclusive positive lock made of steel (C) automatically locks *each* row as it opens and closes.

COMFORT. Spectators sit in chair-height comfort, move legs freely. Custom-fitted for your needs from a choice of 9", 11" or 11½" rise and 22" or 24" spacing.

EASE OF OPERATION. One smooth flow of pressure to close . . . seatboards remain flat, footboard tilts vertically, new riserboard swings out to form closed surface. Non-marring wheels.

LARGEST
gym seats at Elkhart

Hotbed of basketball . . . that's Indiana! Here the city of Elkhart recently opened the doors of its modern, million dollar Northside Gymnasium. Here you'll find the largest installation of folding gymnasium seating in all the world . . . Brunswick-designed Horn Folding Gym Seats!

Eight truckloads of material . . . 15 miles of seatboard . . . 24-row unit, new record in height! Now a total of 8,239 spectators cheer their teams in the safety and comfort of these Horn Gym Seats installed on three levels. Those on the main floor and first balcony fold back out of the way providing five basketball courts in all.

Horn Folding Gym Seats were made to do the *biggest* job *best!* Custom-made to the exact specifications of Brunswick design engineers. And Brunswick has added to these gym seats even more refinements for greater safety, comfort and *ease of operation* . . . better appearance . . . *less maintenance.*

No problem is too simple or too complex for a Horn solution . . . no gym too small or too large for an installation of Horn Folding Gym Seats. Why not talk it over person-to-person? Write or wire today for the name of your nearest Horn agent.

Free! "Horn Folding Gym Seats" . . . *catalog of facts, yours for the asking. Write today!*

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two main entrances and one lobby at either end of the building. There is a large door which was constructed to permit large equipment such as trucks and moving vans to enter the building. Situated in these lobbies are eight ticket booths, four rest rooms, five trophy cases, public telephones, and four refreshment bars, two on the main floor and the same number on the second floor. The corridors are on either side under the balcony connecting the two lobby areas. Locker rooms, offices, check rooms, and classrooms are along the sides of the gymnasium off the corridors.

The Playing Floors

A regulation playing floor is 84 feet by 50 feet. Our gymnasium has two playing floors of that size on the main floor. There is only one playing court when the roll-away bleachers are extended for a large number of spectators and there are two running crosswise when the bleachers are rolled back.

On the mezzanine or balcony there

Upper illustration shows one of the walk-around showers with thermostatically controlled water. Lower illustration shows the caretaker placing the zippered canvas covering on the floor.

are two playing courts, one on either side of the gymnasium. Here again roll-away bleachers cover these playing areas during activities where there are spectators. When desired, all four playing courts can be used at the same time. There are nets from the ceiling to separate playing courts and prevent basketballs from falling to the main floor.

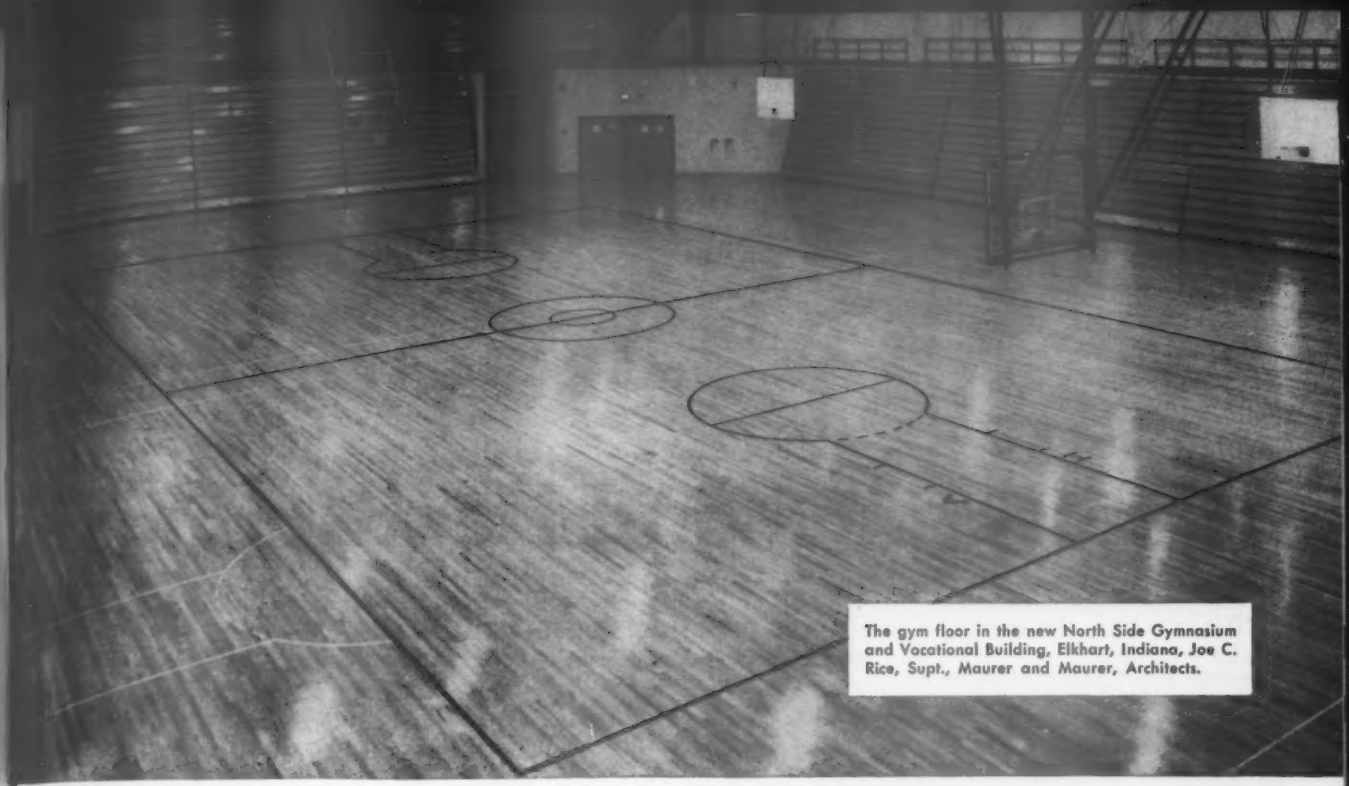
In order to provide a good view for the spectators the main playing floor has two glass backboards suspended above the court by supports that can be elevated or lowered. The first floor also has four other wooden backboards and each court upstairs has two of the same type which can be elevated or lowered.

A large canvas in several sections, with zippers, is provided as a covering for the main floor when it is used for other events. There are two electrical easy-to-view scoreboards which are low enough to permit spectators and contestants to see the score and time with a split-second glance.

Seating Capacity

The gymnasium will seat 8,250 spectators. One thousand five hundred ninety-six of these seats are per-

(Continued on page 50)



The gym floor in the new North Side Gymnasium and Vocational Building, Elkhart, Indiana, Joe C. Rice, Supt., Maurer and Maurer, Architects.

Elkhart School City Officials choose new CRYSTAL SEAL-O-SAN . . . for use on the floors in the world's largest high school gymnasium

The new building includes two separate gym floors for boys' and girls' gym classes in addition to the deluxe arena on the main level.

CRYSTAL SEAL-O-SAN ASSURES A LIGHTER, MORE NATURALLY BEAUTIFUL PLAYING FLOOR

When the Elkhart School City planned this new gym, reputedly the world's largest high school gymnasium (26,000 square feet of basketball playing courts), they realized that good equipment and its proper maintenance was an important consideration if their building was to be fully useful for many years.

Fine hardwood flooring was selected for the four basketball courts and new Crystal Seal-O-San gym floor finish was specified. The finished floor is truly beautiful . . . light, natural-looking, glare-free, remarkably slip resistant and easy to maintain.

If you're planning a new gym or refinishing one in existence be sure to investigate Crystal Seal-O-San. Write Huntington Laboratories today for information and prices.

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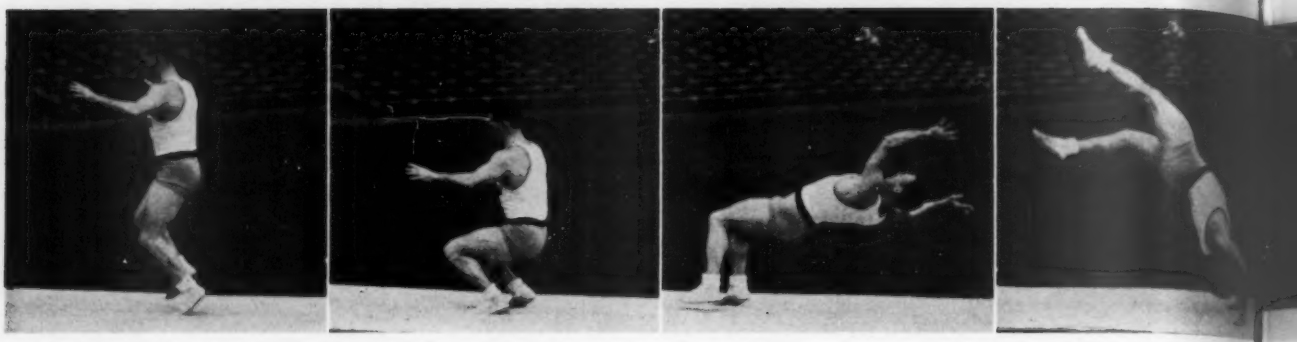


Handsprings and Headsprings

By DICK HOLZAEPFEL
Gymnastics Coach, University of Iowa

THIS article is the second of a series of articles on tumbling. The first article appeared in the October issue. The tumbling stunts presented are from the handspring and headspring category. These stunts are presented from the viewpoint of the learner, the physical instructor, the coach, and the varsity gymnast.

The Running Front Headspring. This is a good stunt to use in leading up to a front handspring. However, some instructors consider it prone to cause neck injury if the shock is not taken up correctly by the performer's arms. These instructors feel that the front handspring should be used to lead up to the front headspring.

We feel that the non-running headspring is safe to teach at any time because the gymnast's head is placed carefully upon the mat with no preceding run. The skill of the class, the softness of the protecting mats, and the technique of the spotters (those who aid the learner and protect him from injury) must all be taken into consideration when presenting any stunt.

Execution. 1). After the run the tumbling skip is executed to permit the performer to control his forward momentum. This skip is a double hop on the leg which is known also as the whipping leg. A two-foot take-off is also possible.

2). The performer's arms are carried in front ready for the downward throw to the mats.

3). His trunk is flexed forward and downward simultaneously.

4). The performer's hands are placed on the mat as his whipping leg is thrown upward and forward.

5). As the performer's left leg leaves the mat his head is placed upon it, by allowing his elbows to flex-support the placement.

6). His left leg also whips upward and over, joining his right leg, when his body has arched over three-quarters of the way through the stunt.

7). Now the performer's arms are straightened and his head leaves the mat.

8). His back is strongly overstretched in order to place his legs as far under as possible.

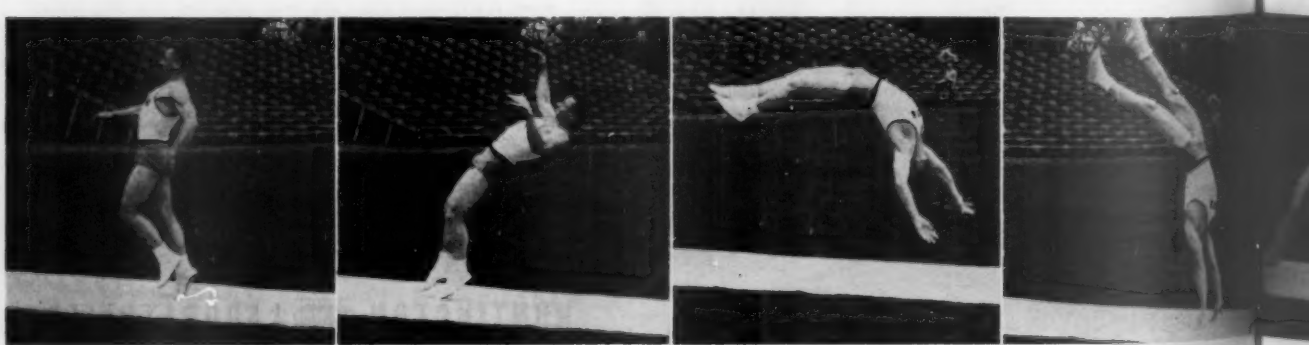
9). As his feet contact the mat the forward momentum gained from the run, leg whip, arm push, and back arch, aided by a strong chest lift and arm lift, turn the performer over to his feet.

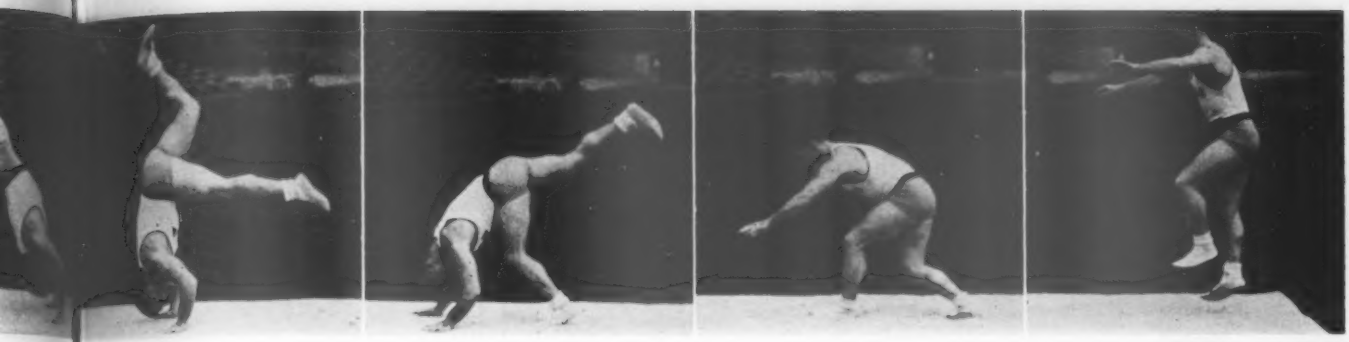
10). The performer may land and continue forward with an arched back (advanced style), or execute a *slide down the line of flight* motion as demonstrated by flexing his hips and knees, thereby placing the center of balance over his feet once more.

Suggested Teaching Method. 1). The student should start from a stand. 2). It is important that the headstand be taught first. 3). The performer should arch over to a wrestler's bridge. 4). The instructor should explain the necessity of the upward and over action of the student's legs for lift and momentum. 5). The performer should be lifted by his shoulders to prevent falling on his back. 6). A rolled mat should be used to give added height on the take-off.

1). The performer should not dive forward for the take-off. 2). He should whip his legs upward and not forward. 3). The performer should not fail to cushion the shock of head placement. 4). He should not fail to arch his back.

The Running Front Handspring–Two-Hand Take-Off — Two-Foot





Landing. The handspring does not utilize the performer's head for support during the take-off. This take-off is very similar to the one-legged take-off used for the headspring.

Execution. 1). For this stunt the run and take-off as described for the headspring are used.

2). The performer's arms are placed farther forward than in the headspring. There is more of a dive and angle of arm thrust from the mat.

3). His left leg leaves the mat to follow the whipping right leg when his arms and right leg are in line. The performer's hands are on the mat as his feet leave it.

4). His head is up and his vision is directed between his hands.

5). The turnover is a result of the linear action or forward momentum plus the factors stated in the headspring such as leg whip, hip flexion, arm thrust, and back arch.

6). The performer's hands leave the mat when he is slightly beyond the inverted position. Thus, the upward lifting action of the combined arm and leg action is demonstrated. His legs are now together.

7). Now the performer's arms, head, and chest are brought forward near the landing time of the stunt, to keep forward momentum.

8). A beginner may also utilize the *slide down the line of flight* method to insure balance upon landing.

Suggested Teaching Method. 1). Thick soft pads should be used for the learner. 2). A momentary handstand and arch over to the wrestler's bridge should be taught. This can also be done over a rolled mat. A demonstration should be conducted to show that the handspring is merely a moving handstand. 3). The performer should take one step and perform the handspring with two spotters lifting his shoulders. 4). For added height the take-off should be executed off a rolled mat. 5). Hip flexion upon landing should be used.

Note all picture series read from right to left.

1). A performer should not dive too far forward in the take-off. 2). He should not bend his arms. 3).Ducking the head too quickly causes a loss of awareness of position. 4).The performer should not flex his back and hips where the arch should be. 5). He should not fail to whip his leg over and upward. 6). The performer should not fail to push upward with his shoulders as his hands leave the mat. 7). He should not fail to keep his chest high.

The Running Front Handspring—Two-Hand Take-Off—One-Foot Landing. This stunt is used to permit a performer to continue forward with running steps in order to combine further stunts in routine with the handspring. Some forward motion will be lost when the lift of the handspring is executed.

Execution. 1). The take-off is the same as described for the other stunts.

2). The performer's whipping leg does not come into contact with his take-off leg. His whipping leg continues its upward and forward throw all the way over to the mat for the landing.

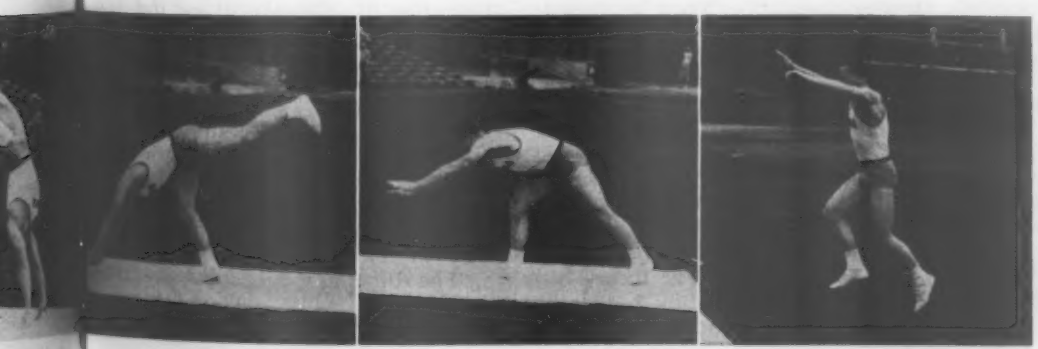
3). In order to set up the spread landing the take-off is maintained in a straddled or spread position.

4). The whip of the performer's legs aids in further pulling his body over in the handspring. This is the principle of a body moving or a body in action pulling another along with it.

5). The whipping leg cuts way under the body for the landing, acting as a vaulting pole or support. The farther the whipping leg cuts under the better, because it permits forward progression to be maintained. Flexion of the knee absorbs shock.

6). The performer's other leg follows over to complete the stunt.

Suggested Teaching Method. 1). Use the teaching procedures as previously suggested. 2). Encourage a very strong leg whip or spring take-off. 3). Encourage a high chest lift. 4). Support the performer under his back for the landing. 5). Encourage a bent knee landing for the first leg to keep angular rotation in progress.

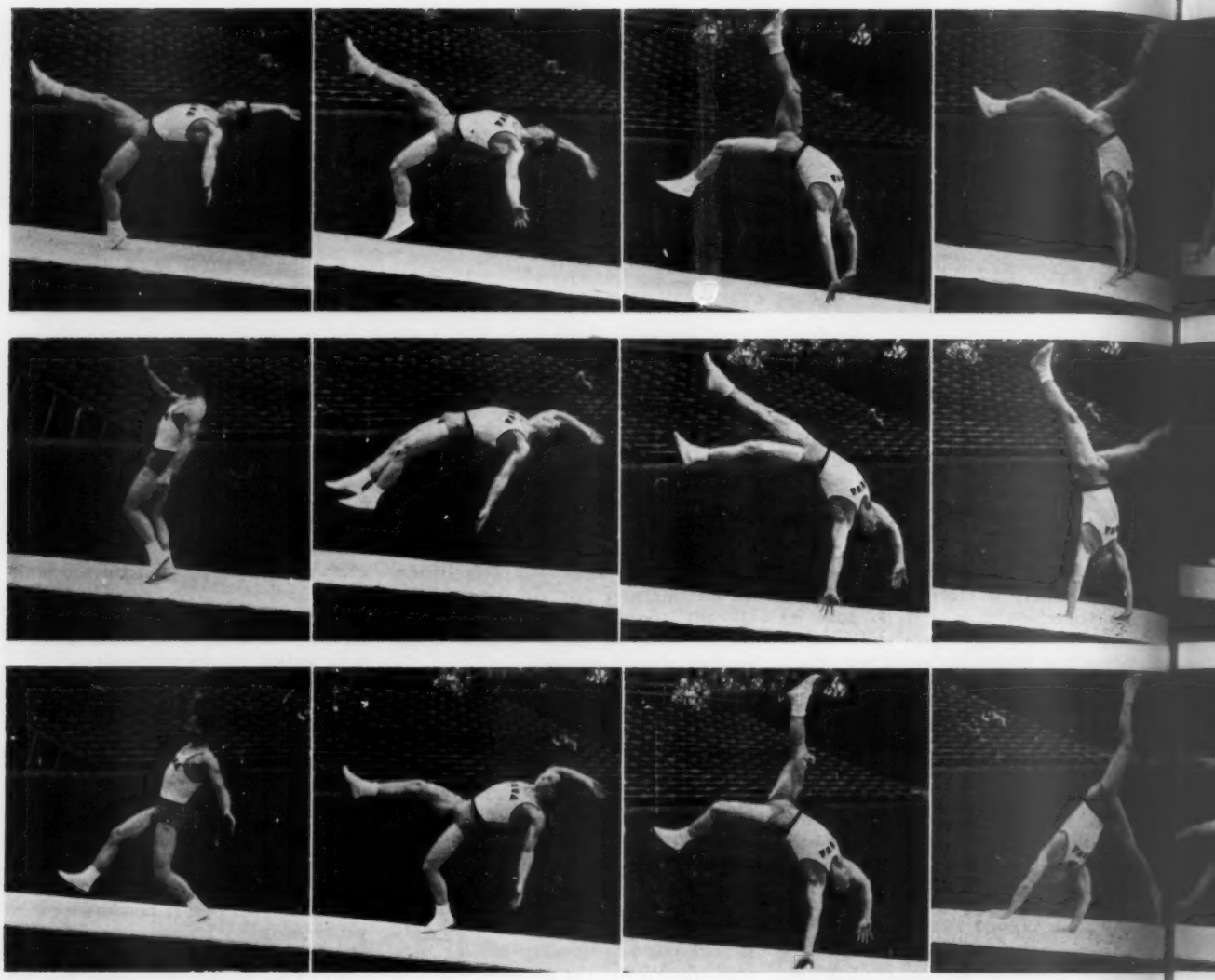


Above

RUNNING FRONT HEADSPRING

Left

RUNNING FRONT HANDSPRING TWO-HAND TAKE-OFF TWO-FOOT LANDING



1). The performer should not fail to arch strongly. 2). He should not fail to whip the first leg very far upward, over, down, and under for the landing. 3). His legs should not be kept together on landing.

The Front Handspring—Split-Hand—Two-Foot Landing. The theory suggesting this style or procedure is one that indicates a longer supporting action by the spread support of the performer's arms during the take-off.

Execution. 1). On the take-off the performer's arms are carried the same as in the preceding stunt.

2). His approach is the same, including the body flexion forward.

3). The performer's arms are spread for the placement—his left arm and leg are in line upon take-off—his right arm and leg are placed closely together upon take-off. His left leg is the primary whipping leg.

4). Both of the performer's legs come together as the arc of the handspring follows through.

5). His left arm remains upon the floor for the longest duration.

6). Completion of the handspring is accomplished the same as it is in the preceding stunt.

Suggested Teaching Method. 1). A cartwheel should be taught first. (See October issue) 2). Then a tinsica should be taught. (See October issue) 3). A straight left arm with shoulder lift should be stressed. 4). Suggest the importance of conceiving the stunt as a leg-whip-lift and arm pole vaulting stunt.

1). The performer should not bend his arms. 2). He should not forget the back arching action.

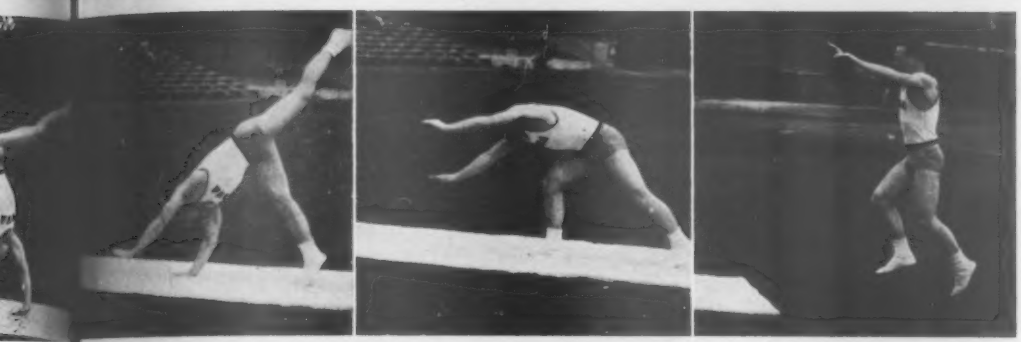
The Front Handspring—Split-Hand—Split-Foot Landing. The theory behind the use of this stunt is that it keeps the maximum forward progression underway while a front handspring is being performed. The performer's arms and legs resemble the spokes of a wheel and give support to that wheel. There is less need of the upward lift since there is almost continual support upon the mats during the stunt. Thus, a series of handsprings may be executed with no break between each stunt.

Execution. 1). The take-off and the landing have been described in the preceding stunts. Now the combination is put together.

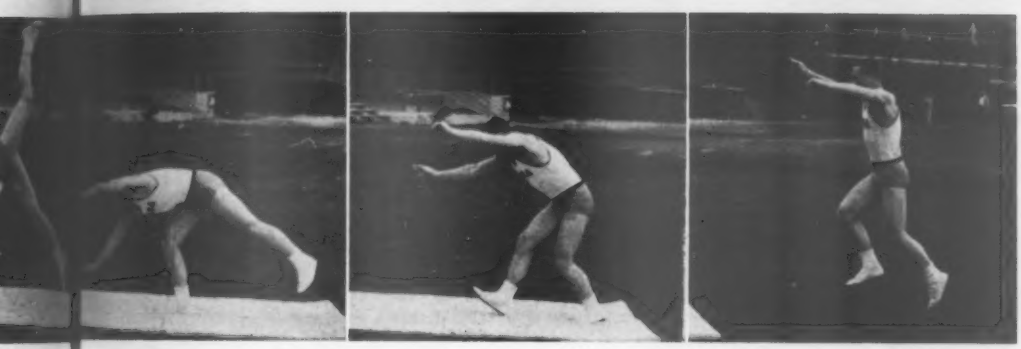
2). The performer's forward arm must maintain its locked position for maximum turnover time. This enables the performer's whipping leg to get as far under as possible and permits maximum forward rotation or angular rotation.

3). The run, plus the leg whip, plus the trunk lift, plus arm support, equals a successful handspring.

RUNNING FRONT HANDSPRING TWO-HAND TAKE-OFF ONE-FOOT LANDING



RUNNING FRONT HANDSPRING SPLIT-HAND TAKE-OFF TWO-FOOT LANDING



RUNNING FRONT HANDSPRING SPLIT-HAND TAKE-OFF SPLIT-FOOT LANDING

The Balboa Pitching Charts

By STEWART BROWN

Baseball Coach, Balboa High School, Balboa, Canal Zone

IT is certainly true that the batter who knows what pitch a pitcher will throw and where he will throw it stands a far better chance of hitting than will the batter who does not have this information. By the same token, a pitcher who knows what a particular batter cannot hit will fare much better than will the pitcher who is throwing with a prayer. These two facts formed the basis for the development of the Balboa charts. These pitching and batting charts provide our pitchers and batters with valuable information concerning opposing batters and pitchers.

The Balboa charts are made of miniature home plates, one for each time a player comes to bat. Every pitch is recorded so that in analyzing the chart it is possible to ascertain what type of pitch the pitcher throws, where he throws it, and when he uses the various pitches in his repertoire.

The key to the symbols used in and around the miniature plates to record this information is as follows: Capital letter indicates a fast ball. Small letter indicates a curve ball. Alphabetical order indicates the order of pitches (first pitch is *a*, the second is *b*, etc). Underlined letter indicates a pitch swung on and missed. Underlined letter plus direction arrow indicates the direction in which a pitch is hit. Letter in specific location in or around the plate indicates the location of the pitch. Roman numerals and position numbers indicate base hits and the nearest defensive man (II-9, double to right field). Entire

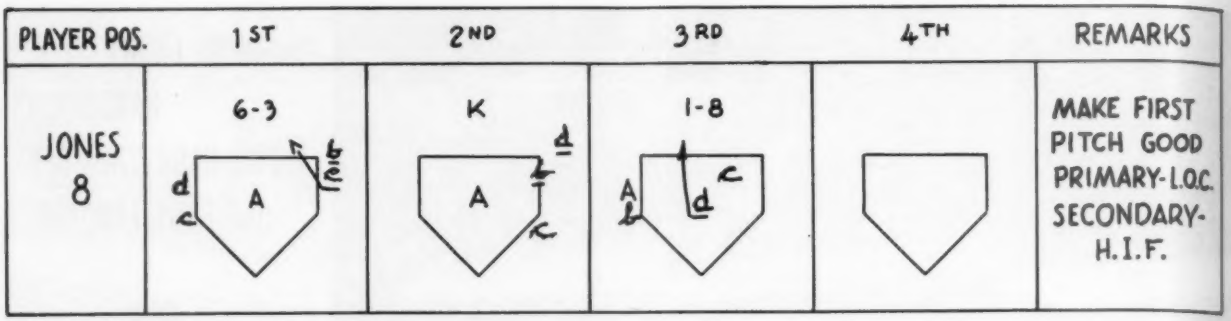


plate encircled indicates a run scored. Other symbols are the same as those used by official scorers.

Diagram 1 shows the construction of the charts, and the symbols used. It describes a pitcher-batter duel between pitcher Montavoni of Balboa High School and batter Jones of an opposing team. Using the key as outlined, we can note the following:

The first time at bat, Jones took a fast ball for a called strike (a), swung on a low and away curve for strike two (b), took a high outside curve for a ball (c), another for ball two (d), and hit the following pitch which was a low and away curve to short (e), being thrown out at first (6-3).

On the second trip, Jones took the first pitch, a fast ball down the middle, missed a low and outside curve, took a high curve for a ball, and then missed a low wide curve for a third strike.

On his third trip to the plate, Jones took the first pitch (high inside for a ball), took a high curve for ball two, took a curve strike, and then hit a curve strike, singling to center.

We may draw the following conclusions from this play. First, from the batter's viewpoint, Jones should go after the first pitch because it is apparent that the pitcher likes to get it in the strike zone. If Jones finds himself ahead of the pitcher, he should expect a good curve ball in the strike zone; if he is behind, he can expect a high outside pitch wide of the corner. From these observations it is obvious that the batter should stand deep in the box for the first pitch and move a little forward on the next pitch in order to hit the curve before it breaks. He should be set for the wide fast ball when he is behind in the count and the good curve when he is ahead. Looking at this same chart from Montavoni's position, it is apparent that Jones usually takes the first pitch, so he should make it good. Jones will go for the low outside pitches so Montavoni should waste a pitch just out of the strike zone, and then come back with a good curve ball, low and outside to the corner.

After charting a number of batters, we discovered that most batters have two weaknesses, a primary one which they go after but seldom hit clean and a secondary weakness which they invariably take in the strike zone. The primary weakness is referred to as the *go* pitch, the secondary as the *take* pitch.

The boys we have do our charting are pitchers who are not slated for duty during that particular game. They remain in street clothes and sit in the grandstand, behind the plate, so they can scrutinize the movement of all pitches. It is imperative that good capable recorders do this work, and from a good vantage point, or much of the effectiveness of the charts will be lost.

We have a meeting with our batters the day following a game and make use of a large blackboard space to go over each batter and pitcher, discussing and eventually coming to an agreement on what the primary and secondary weaknesses of each batter are and how best to bat against opposing pitchers, noting any pitching patterns or sequences that become apparent from the charts. From the information on our own batters, we can determine what pitches they have been going for and corrections can be made on the practice field. All information gained from the charts is indexed and filed away for future use.

Table 1 shows how the pitching data is prepared for use. It should be realized that the value of the charts increases as the season progresses and after the batters and pitchers have been seen in several games.

We have seen and read about many charts of this nature but believe our charts are simpler and superior to any of these. The charts proved an excellent aid in winning the Panama Canal Zone Interscholastic Championship of 1954. Because of climatic conditions on the Isthmus, our baseball season begins in January and ends early in March. We hope that some of our colleagues may find the answers to their pitching and batting problems this year through the use of our charts.

Table 1
Pitching Data
Balboa High School vs. American Legion
Pitcher — Pretto

No. of pitches	74
No. of strikes on curve balls	14
No. of strikes on fast balls	36
Total no. of strikes	50
No. of balls on curve balls	20
No. of balls on fast balls	4
Total no. of balls	24
Total no. of curves	34
Total no. of fast balls	40
No. of batters	25
Fst. pitches that were strikes on curves	6
Fst. pitches that were strikes on fast balls	11
Fst. pitches that were balls on curves	5
Fst. pitches that were balls on fast balls	3
No. of hits off curve pitches	2
No. of hits off fast ball pitches	4
Total no. of hits	6
No. of walks	2
No. of strike-outs	2

Suggestions to Balboa High School Batters

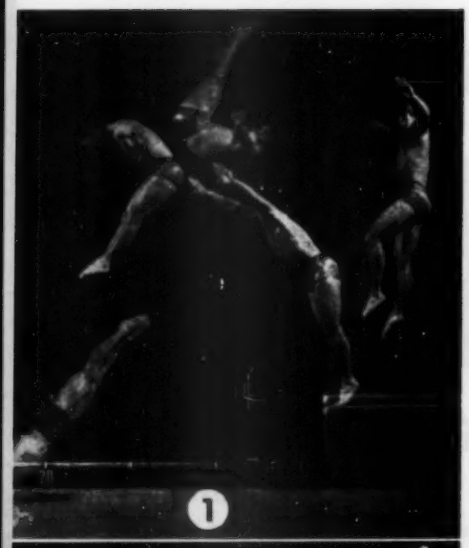
1. Stand deep in the box, close to the plate in order to be prepared to hit a fast ball.

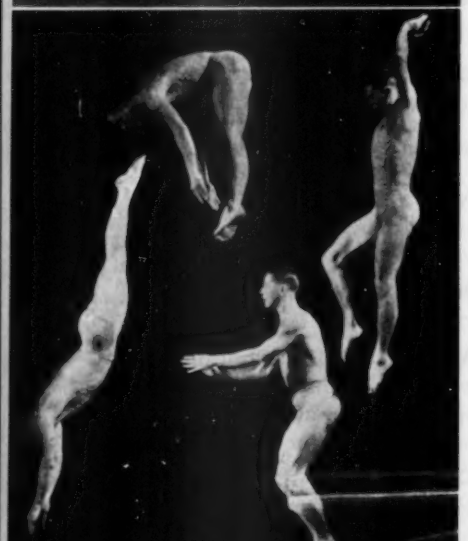
2. The first pitch is usually good, hit it (3 out of 6 hits come off the first pitch).

3. When the count is in the batter's favor he is ahead of the pitcher and should expect a fast ball down the

(Continued on page 58)

GRADUATING from Pittsburgh in 1949, Stewart Brown coached two years at St. Justin's High School and two years at Taylor Allerdice High School, both in the city of Pittsburgh. His 1953 team in the Canal Zone compiled a record of 19 wins against 7 losses and last year's team had a record of 16 wins and 9 losses. Of interest is the fact that the baseball season in the Canal Zone ends the beginning of April.





Judging the Dives

By ROY B. MERRITT
Assistant Athletic Director, Massachusetts Institute of Technology

ONE of the problems confronting diving coaches everywhere is the general inconsistency of diving scores and judging. This inconsistency stems from various causes—the experience of some judges, the lack of it in others, and the misunderstanding among judges as to what comprises a good dive.

Many diving coaches in colleges and high schools rely on volunteer officials in swimming. These men and women who act as judges, starters, timers, and referees are unpaid. Theirs is a labor of love, a fact which renders even constructive criticism difficult to make. These people are not stubborn or oversensitive. In many other sports officials are hired, paid, and rated each week for performance. If they cannot measure up to the established standards of performance, they are dropped from the approved list of officials. If our officials are unpaid volunteers, then swimming and diving are in an entirely different position. Yet we need standards of performance badly, particularly in the diving event.

Judging the dives is indeed a sore point, even among experienced diving judges, because of the variation of opinion as to why a dive is good or bad. Criticism among the judges themselves has been so bitter at times that former diving judges refuse to officiate nowadays. Coaches find so much variation among judges that they are at a loss to explain scoring results to their own divers who may be awarded 7 points for a dive on Wednesday and only 3 points for the same dive executed better on Saturday.

Scoring

Dives are scored on a point basis from 0 to 10, with half-point awards possible between 5 and 10 (*NCAA Guide*). No points may be given for a completely failed dive and 10 points for a very good dive. In our eighteen years of association with the sport as a competitor, spectator, and coach we have never seen 10 points awarded. We have concluded that 10 points are awarded for the perfect dive. In the *NCAA Swimming Guide*, a score of 5-6½ is listed as satisfactory. In many meets such a score is relatively high.

Therefore, it can easily be seen that what may be considered a satisfactory dive by one judge may be a deficient dive in another's opinion. Hence, it may be argued, and justifiably, that this arbitrary point scale is adequate only when the human element is overlooked. This element can be overlooked only in the rule books, not in competition.

What we as coaches would like to reduce is the number of times that three judges will award points ranging from 3 to 8 for the same dive by Diver A. Why has Judge Jones seen this dive as deficient, Judge Smith rated it as satisfactory, and Judge Brown decided that Diver A has executed a good dive. Needless to say, Diver A climbs out of the water a frustrated and confused individual, and he has a coach who cannot give him the answer.

Some judges take off more points for overtwisting in a dive than they do for undertwisting, more for overspinning than underspinning, etc. Last season three judges in a dual meet awarded a diver 5-5-6 for a forward one and one-half somersault tuck in spite of the fact that the dive had been announced from the diver's own selection of dives as a forward somersault tuck, degree of difficulty being 1.4. Here then was an opportunity for all three judges to award no points. It was not for them to assume that someone had made a mistake in the announcing. The diver did not perform the dive he had asked to be announced, hence he should have received nothing for the effort. On the contrary, he did very well on a dive he had not even listed among his dives for the meet.

Every dive has four major phases: 1. The run and hurdle. 2. The elevation. 3. The execution. 4. The entry.

These four phases should be the primary concern of the diving judge, and it is his responsibility to determine the point award for each dive. He should consider these phases and combine the points for each in his mind before flashing his award card.

If we gear the 10-point table to some arbitrary division of points and

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decide on some usable segments of numbers, each of which fits one phase of the dive, we might develop greater consistency.

In the past there has been considerable discussion of this division of points, with the most practicable and the most frequent being the 1-3-3-3 division. It has been suggested that 1 point be given for the run and hurdle, 3 for the elevation, 3 for execution and grace, and 3 for the entry. This system may seem to complicate matters; however, experienced diving judges will have no difficulty adjusting their thinking to encompass these factors, and once acquired the mechanics of the process are natural. Many coaches have been using this method of judging while coaching divers. It is easily learned, and becomes more usable with practice.

Many judges have a prejudice against certain dives. They wait throughout the competition for a certain fault to appear and then jump on it and make the poor diver pay dearly for his mistake.

Coaches and judges have discussed this division of points plan in the past and there has been considerable argument over the impracticality of it. This impracticality could be eliminated with practice and experience, so that eventually we might have a system satisfactory to coaches and judges alike. Some semblance of consistency would be achieved. This is rarely present in today's judging of dives.

Let us look at the diver in Illustration 1. His run and hurdle were good and would have netted him a full point for board work. The elevation, because of a poorly angled take-off was mediocre, and was worth 1½ of the allotted 3 points. His execution and open pike position were adequate, but slow, and were worth 2 of the 3 points allotted to this phase. The entry into the water was poor, and was worth perhaps 1 of the 3 points used here. The diver received a total of 5 to 5½ points if half points are being used at this level. Such scoring gives the diver credit for the phases of the dive he has accomplished and does not take off 9 points for a poor entry alone.

In Illustration 2 we see the diver in a good hurdle; his run was poised and balanced, and his take-off and elevation were good. His execution was good, although the pike position could have been tightened somewhat. The diver's entry was good as he straightened from the arched position shown and lowered his head. Hence, he might have received the full point for the run and hurdle, 2½ to 3 points for elevation, 2 to

(Continued on page 57)

As a means of clarifying the competitive diving picture we present some basic dives. The dives are demonstrated by Bob Clotworthy, National AAU diving champion in 1953. The analysis appears in bold face type starting on page 22. "What the Judges Look For" starts below. The article was arranged so that pages may be removed for bulletin board use.

Basic Dives Analyzed . . . . . .

By PHILIP E. MORIARTY
Diving Coach, Yale University

What the Judges Look For

By D. CLARK LEACH
Swimming Coach, Chicago Athletic Club

IN order to evaluate any given dive it is necessary for the judge to have a well-defined mental picture of it in any permissible position — tuck, pike or layout. The factors to be considered are: 1. The run or starting position. 2. The take-off. 3. Technique used during flight. 4. Entry into the water.

The dive should be compared and graded on the basis of 10 points for a perfect dive, using one-half points and starting with 6½ if desired. Prior dives of other competitors should not be used as a measure.

Before each dive the name of the competitor, the dive he is about to perform, and the style in which it is to be executed — tuck, pike or layout should be announced. It is the diver's responsibility to see that his dive is announced properly. If the diver does a dive other than the one announced, the award should be zero. No dive should be considered unless it is listed in the Diving Tables. No points should be awarded unless the diver makes an honest attempt. The referee will decide whether or not an honest attempt was made.

When, in the opinion of the referee, a dive was influenced by exceptional circumstances he may permit it to be repeated. Exceptional circumstances include only the most unusual happenings.

When a dive is started and not completed, due to a false start or balk, the referee may allow it to be repeated. When the second attempt is completed the referee will instruct the secretary to reduce the award by one-third. In case the second attempt results in failure, no further attempt should be permitted and the dive should be considered as a complete failure and awarded no points.

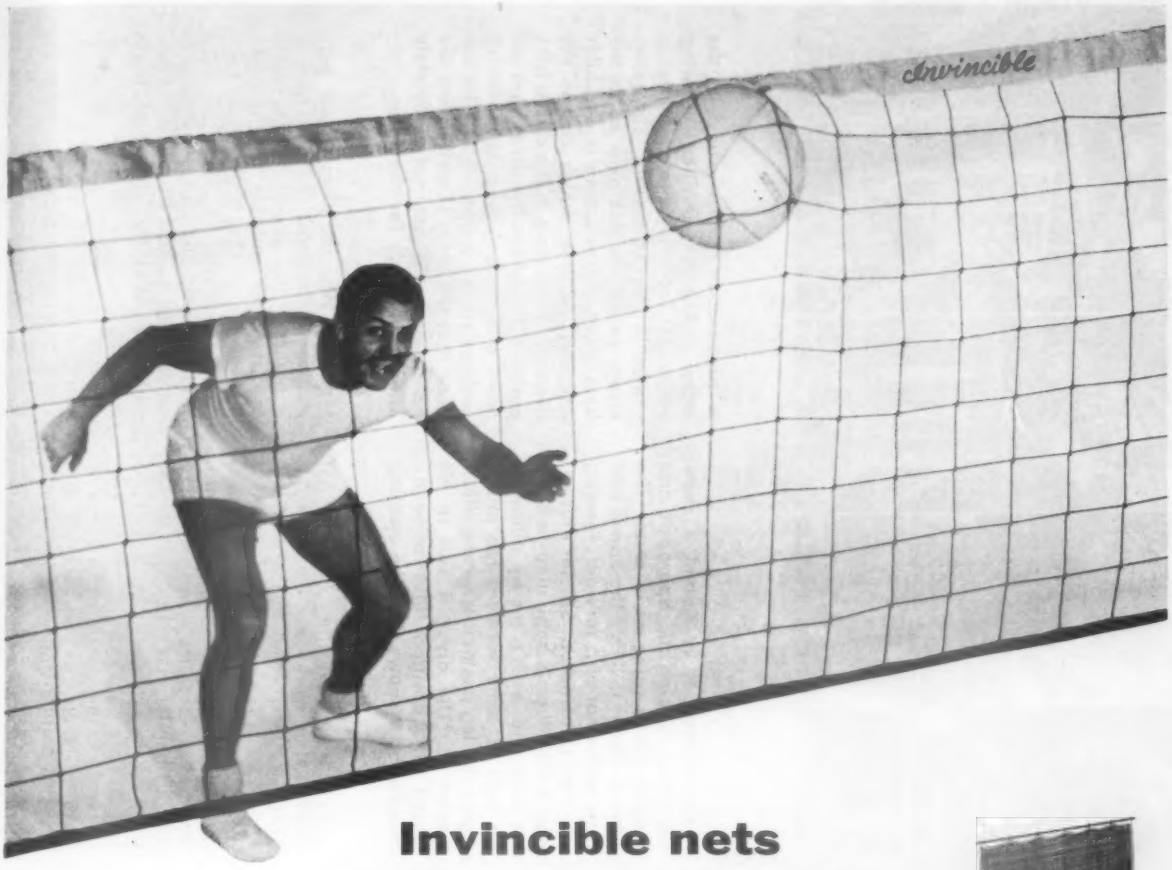
The diving judge makes his award without considering whether or not the dive has been repeated.

Ali dives of the same number whether tuck, pike or layout are considered as the same dive.

The diver's approach to the starting position will not be considered.

Several dives with the points we watch for when we are acting in the capacity of judge are as follows:

DAVID CLARK LEACH is a leading figure in the world of swimming administration, officiating, and coaching. He was instrumental in having synchronized swimming adopted as a sport. He has served as vice chairman for men's swimming, been a member of the American Olympic Committee, and for a good number of years has judged diving in AAU, intercollegiate, and interscholastic meets. He was appointed to his present position during the past month.



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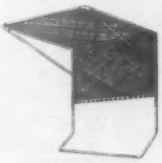
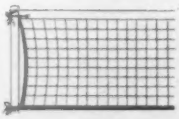


Moveable Baseball Backstops



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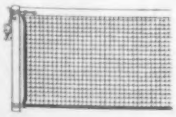

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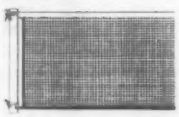

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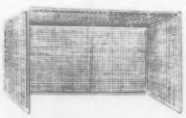

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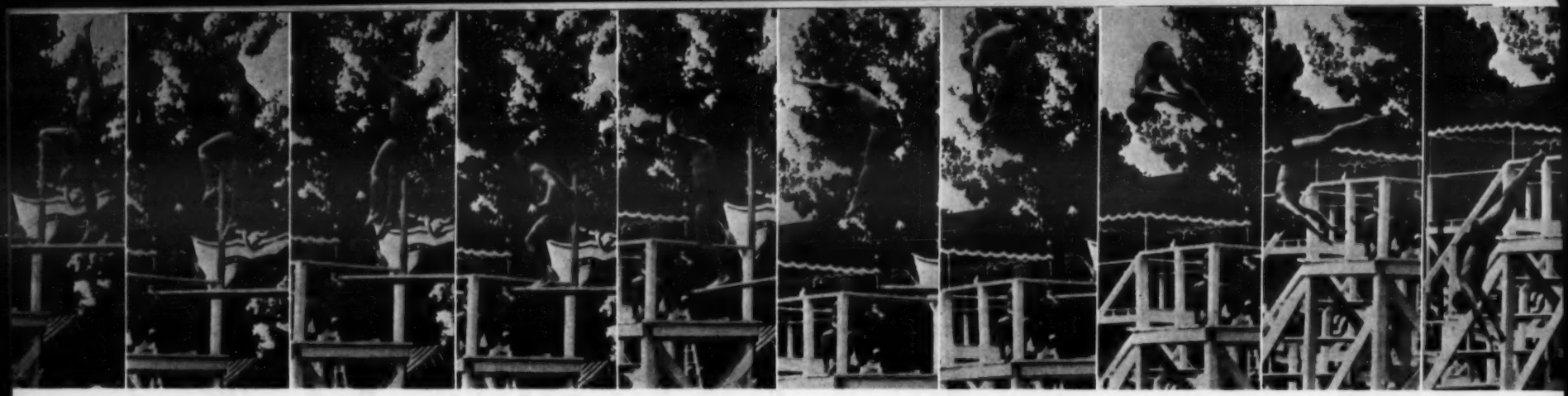

Running Front Dive or Jackknife

(Jackknife shown here)

Group Number I Dive Number 100
Difficulty 1.3

Illustrations 1, 2, 3, and 4 show the diver making his approach and hurdle. He is using good form. The diver is about to leave the board and is in somewhat of a forward, leaning position (Illustration 5). In Illustration 6 the diver is beginning to close his pike and is in error by allowing his legs to come forward too much. Again the leg position is wrong (Illustration 7). The diver is still in his closed pike position (Illustration 8). Illustration 9 shows the pike opening in preparation for the stretch to the water. Another position showing alignment for entry into the water is shown in Illustration 10. The same errors persist in this dive as in the back jackknife, resulting in a similar dormant position which causes the diver to be too long in the closed pike position. Therefore, the diver does not have a sufficient drop in a stretch position to the water. It will be noticed that the diver is well below the board and still has not completely aligned his body for the entry.

The Run: 1. Did the run consist of at least three steps and a hurdle? 2. Was it straight, smooth, and forceful? 3. Was the hurdle smooth and did the diver land on the end of the board with both feet simultaneously?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did the take-off display confidence?

Technique During Flight: (A) Plain Front or Layout Position. 1. Was the apex of the dive reasonably high? 2. Was the diver's head held up well? 3. Were his arms stretched out sideways in line with his shoulders? 4. Were his fingers together and his hands stretched? 5. Were the diver's arms kept still until just before his entry into the water? 6. Was his body bent at either the knees or hips? 7. Were his feet together and his toes pointed? 8. Was the course of flight correct?

(B) Jackknife or Pike Position. 1. Was the apex of the dive reasonably high? 2. Was the diver's body bent sharply at the hips? 3. Were his legs straight at the knees? 4. Were his legs together and his toes pointed? 5. Was the jackknife (pike) as compact as possible? 6. Were his arms stretched and his hands placed one on each leg as near his ankles as possible? 7. Was the course of flight correct?

Entry Into the Water: 1. Was the entry head first? 2. Were the diver's arms stretched overhead? 3. Were his toes pointed? 4. Was his body straight? 5. Was the entry as near vertical as possible?

(Continued on page 24)

(Continued on page 24)

Back Dive Straight or Pike

(Pike shown here)

Group Number II Dive Number 200
Difficulty 1.7

Illustration 1 shows that the diver's arms have already started to descend to his sides, indicating an incorrect starting position. In Illustration 3 the diver's arms, in his preparation for the take-off, are in excellent position. In the position shown, during the press of the board, there is a slight backward lean in the region of the diver's hips (Illustration 4). In Illustration 5 the same error seems to be present, although in Illustration 6 it is eliminated, and the diver's hips are more directly over his feet. The diver's arm stretch upward and the leg lift show perfect form (Illustration 7). In Illustration 8 we would assume the diver has already closed his pike and is falling away from his legs with his upper body. This is an excellent execution. Illustration 9 would indicate that the diver's legs did not remain in the same relative position shown in Illustration 8 but dropped towards the board. This is an error. Illustrations 9 and 10 show excellent arm action. The diver's arms are brought over his head in the side horizontal plane rather than vertically over his chest.

(Continued on page 26)

Starting Position: 1. Was the diver's body straight? 2. Was his head erect? 3. Were his arms stretched forward level with and the width of his shoulders apart? 4. Were his fingers together? 5. Was the balance maintained once the starting position was assumed?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did the take-off display confidence?

Technique During Flight: (A) Straight or Layout Position. 1. Was the apex of the dive reasonably high? 2. Were the diver's knees bent? 3. Was his body bent at the hips? 4. Were his legs and feet held together? 5. Were his fingers together? 6. Were his arms stretched out sideways in line with his shoulders or were they stretched above his head in line with his shoulders? 6. Was his back arched gracefully? 7. Was the course of flight correct?

(B) Pike Position. 1. Was the apex of the dive reasonably high? 2. Was the diver's body bent sharply at the waist? 3. Were his legs straight and his toes pointed? 4. Was the pike as compact as possible? 5. Were the diver's arms stretched and placed one on each leg as near his ankles as possible or were his arms stretched and his hands placed behind each of his knees? 6. Was the course of flight correct?

Entry Into the Water: 1. Was the entry head first? 2. Were the diver's arms stretched overhead? 3. Were his toes pointed? 4. Was his body straight? 5. Was the entry as near vertical as possible?

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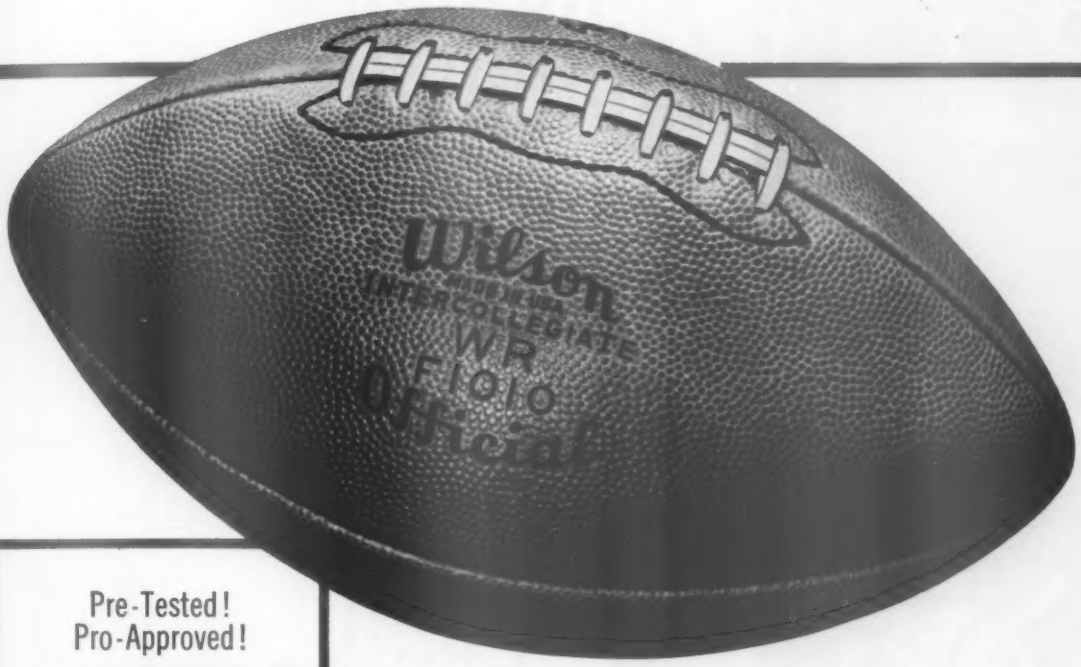

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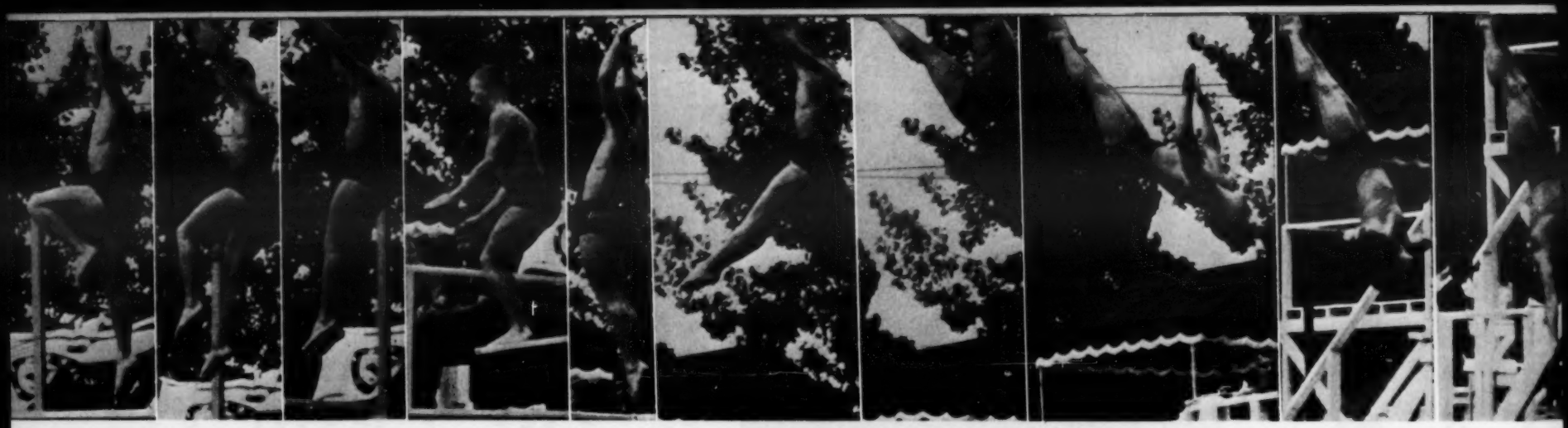
The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did (B) Pike Position. 1. Was the apex of the dive reasonably high? 2. Was straight? 5. Was the entry as near vertical as possible?

(Continued on page 26)



Running Half Gainer Straight or Pike

(Pike shown here)

Group Number III Dive Number 300
Difficulty 1.9

Illustration 1 shows the diver at the beginning of the hurdle. The lower part of his left leg should be more at a right angle to his thigh than is shown, and his arms are somewhat high. The position of the diver, as shown in Illustration 2, is in good form. We see him at the peak of the hurdle, just before he brings his legs together for the descent to the end of the board (Illus. 3). Illustration 4 shows the diver pressing the board. His arms are coming down hard as his legs bend prior to pushing from the board. Illustration 5 shows a slight error in performance. The diver's hips are being pushed forward which causes the dive to swing outward away from the board with too great a force. In Illustration 6 the diver is beginning to bring his legs up to assume a pike position. Illustration 7 shows the diver about to close the pike. He has placed his arms too far forward and they will meet his legs at a point short of the proper leg lift. This is an error, but the diver uses a quick breakaway from that position and proceeds to the water in excellent form (Illustrations 8, 9, and 10). It will be noticed that the diver's legs remain in a constant position during the entire descending action. This is good technique. His arms are brought over his head, side upward rather than forward upward. This technique is in the best form.

The Run: 1. Did the run consist of at least three steps and a hurdle? 2. Was the run straight, smooth, and forceful? 3. Was the hurdle smooth and did the diver land on the end of the board with both feet simultaneously?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did the take-off display confidence?

Technique During Flight: (A) Straight or Layout. 1. Was the apex of the dive reasonably high? 2. Was the diver's head held down well? 3. Were his arms stretched out sideways in line with his shoulders or were they stretched above his head in line with his shoulders? 4. Was his back arched gracefully? 5. Was his body bent at either the knees or hips? 6. Were his feet together and his toes pointed? 7. Were the diver's hands stretched and his fingers held together? 8. Was the course of flight correct?

(B) Pike. 1. Was the apex of the dive reasonably high? 2. Was the diver's body bent sharply at the waist? 3. Were his legs straight and his toes pointed? 4. Was the pike as compact as possible? 5. Were the diver's arms stretched and placed one on each leg as near his ankles as possible or were his arms stretched and his hands placed one behind each of his knees? 6. Was the course of flight correct?

Entry Into the Water: 1. Was the entry executed head first? 2. Were the diver's toes pointed? 3. Were his arms stretched overhead? 4. Was his body straight? 5. Was the entry as near vertical as possible?

(Continued on page 45)

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did his Lingerfield together? 3. Was the course of flight correct? (B) Pike. 1. Was the apex of the arms stretched overhead? 4. Was his body straight? 5. Was the entry as near vertical as possible?

(Continued on page 45)

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Random Thoughts on Soft Living

IN both the November and December issues we discussed what we considered the softened living of the country. It was our purpose to turn our attention to other matters until we had occasion to hear Avery Brundage, president of the International Olympic Committee, discuss his recent trip to Russia.

The following two paragraphs are taken from his prepared speech before the Chicago Rotary Club. They are so pertinent to the facts we have been discussing that we would like to quote them.

"The Olympic Games were revived in 1896 with the United States and the British Isles leading the way in promulgating the gospel of sports for youth throughout the world. Until recent years we have distinguished ourselves in international competitions, but other countries are beginning to outshine us in every field of international athletics.

"Much of this can be charged to the softer lives our young people lead today. The rising rate of juvenile delinquency is one example. Boys and girls now ride, where their parents walked. They even use scooters on golf courses. They spend their time watching televised sports events. Television is entertainment, not sport."

Much has been said about the government operated sport camps in Russia where promising athletes do nothing but train and practice their events. These sport camps, of course, have been responsible in a large measure for the phenomenal success the Russians have been experiencing recently in international competitions. We are afraid too many people are going to latch on to this excuse to explain away our failure to defeat the Russians in the next Olympics, should the occasion require.

Our teams have been suffering defeats in international competitions by teams from a number of different countries. These defeats have been administered by countries that do not run government sponsored sport camps. Not only have these defeats been in activities which are more or less foreign to our sport picture, but they have also been in typically American sports such as basketball.

Performances in our country are improving, as a glance at the records in the article, "Track in the High Schools," to be found elsewhere in this issue, will indicate. Apparently our rate of improvement is not as rapid as that of other countries.

Our coaching, athletic facilities, and equipment are second to none and yet other countries are improving their athletic performances faster than we are improving ours. The question is why?

We think the answer can be boiled down into one sentence taken from Avery Brundage's talk: "Much of this can be traced to the softer lives our young people lead today."

Television, automobiles, and the like can be blamed for this softened living, but the blame should not rest solely on our modern conveniences. A far greater proportion of the blame should fall upon our general outlook on life. It is a view that has invaded the thinking of our military leaders. Intensive training and forced marches are frowned upon. It is a view that accepts the theory of cradle to the grave security. No longer is it felt necessary for an individual to be strong physically or mentally in order to survive.

Educators themselves have been guilty and just how guilty may best be shown by the now famous report of the Educational Policies Commission. In the report, "School Athletics" the Commission stated: "More adequate health and safety protection is accomplished by avoiding play during inclement weather."

Dr. Rhea Williams, state athletic director for Texas, answered this exceptionally well in the November issue of the "Texas Interscholastic Leaguer." Several of the most pertinent paragraphs are quoted here: ". . . . If this 'pot-plant' philosophy of life is adopted, in the years to come the typical American traits of ruggedness and initiative will disappear and we will become a 'greenhouse' nation. Under such a 'pot-plant' philosophy all outdoor activities would cease during inclement weather. Records clearly indicate that the youth of our country were 'soft' and poorly prepared from a physical and a mental viewpoint for World War II. The adoption of this 'pot-plant' philosophy

(Continued on page 67)

This Thing Called Flat Feet

By Dr. SIMON BENSON
Associate Professor, Physiotherapy Department of the Student Health Service, Wayne University

IT is not the student who is always stumped by the teacher; at times, somewhat to the teacher's embarrassment, the table is reversed, as was once the case in our class in Prevention and Care of Athletic Injuries. According to custom, considerable emphasis was placed on foot problems, especially so-called flat feet (fallen and/or congenital) and their relation to athletic ability in various sports. In order to project this relationship more effectively, we usually selected two such divergent activities as weight lifting and sprinting.

Our closing remarks on the subject usually implied that while flat feet need not necessarily handicap a weight-lifter, they would most certainly prevent an individual from achieving fame as a sprinter. Having derived and presented this conclusion after what we felt was a careful analysis of the structural and functional features of the foot, and in the absence of any challenge to the contrary, we felt quite secure in our stand. However, as all things come to pass if one waits long enough, so it also came to us. One day, at the conclusion of our statement that no flat-footed individual could achieve fame as a sprinter, a member of the class raised his hand signifying he wished to make a remark. It was brief and to the point: "I am flat-footed."

Now, if this student had been a so-called average student and of mediocre athletic ability, the remark could and probably would have been considered of no particular significance, but such was not the case. The student in question was one of the best sprinters in the country—a member of the victorious United States Relay Team in the London Olympics—Lorenzo Wright.

To say that we felt stumped would be putting it mildly. In fact, we felt all taken apart, and must have looked even worse. Indeed, if our detailed analysis of the foot structure and its relation to athletic ability could be reduced to ashes so quickly and decisively (because who were we to proclaim that a member of the U. S. Olympic Track Team had not achieved fame in his field?) how could we expect the students to put much faith in anything else we taught them.

The next move was, of course, up to us, and human nature being what it is, we naturally were not going to surrender without a struggle. After a somewhat painful hesitation accompanied by a few weak guttural coughs, we finally mustered enough courage to challenge the challenger by saying that although we did not question his sincerity, we did doubt the correctness of his self-diagnosis. However, this defensive thrust availed us nothing. Mr. Wright parried effectively by suggesting that an examination of his feet would prove him correct, and that he would be happy to have us serve as the examiner and judge.

Clearly we had now reached *the point of no return*, and the only road to victory—if one could be achieved—was to continue straight ahead. In the first place, for us to sidestep Mr. Wright's suggestion to examine his feet would figuratively put us out of the frying pan into the fire; secondly, we began to feel more and more concerned about the actual facts and implications of the case at hand. We

(Continued on page 52)

Illustration 1. Prints of right foot, showing (left to right) high arch, moderate arch, low arch, and flat foot, respectively.

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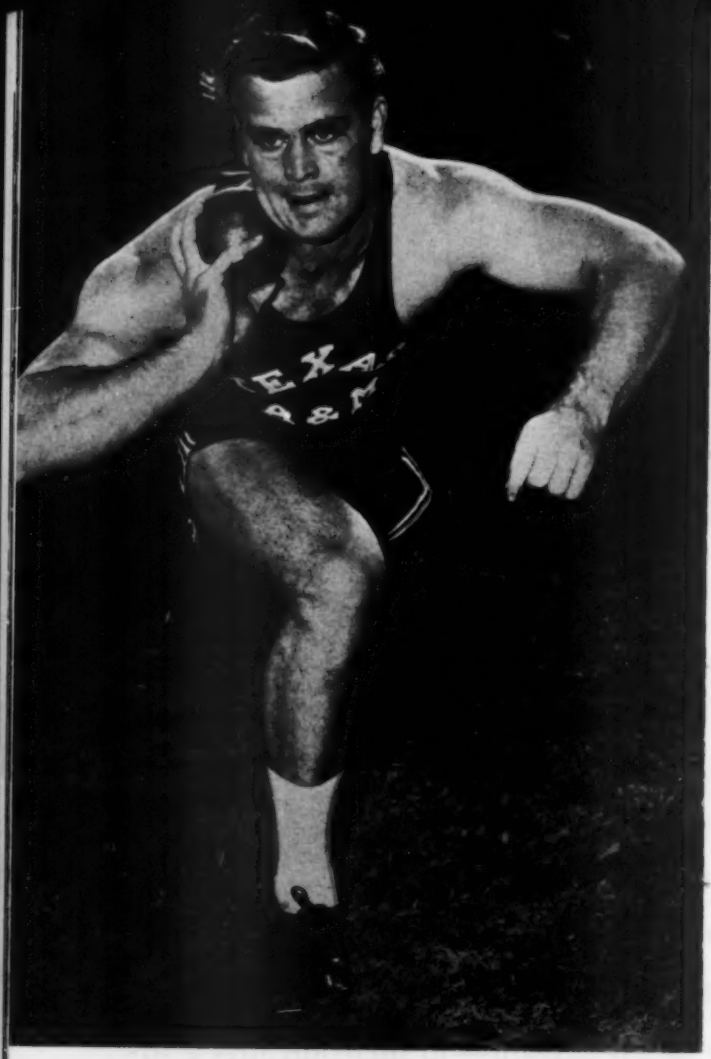

Bobby Gross, Southwest Conference shot put and discus champion in 1954. Gross followed a strenuous program of weight training for four months prior to the opening of the track season. He improved his distance in the shot put three feet over the previous year.

Pre-Season Weight Training for Weight Men

By WILLIAM A. GOELLNER

Department of Physical Education,

Texas A. & M. College

DURING the last few years the interest of the track fans has been centered on the shot put. A historical climax in this event was reached in the 1954 season with the achievement of the first officially recorded 60-foot put. The names of Fonville, Fuchs, Hooper, Chandler, and O'Brien have come in for a generous share of the publicity previously lavished on the performers in the more spectacular events such as the sprinters, hurdlers, and jumpers. With this advance in the shot there are similar improvements in other weight events and the 200-foot mark in the discus is merely a question of time.

These amazing gains in the weight events have been coupled with refinements in techniques and training methods. The subject of systematic weight training for weight men is assuming greater importance in the pre-season conditioning routines of many of our star throwers. In spite of its increasing popularity controversy continues to rage around the desirability of including weight training in the conditioning program. Many veteran track coaches either ignore its potential or are downright hostile to it and deride weight training whenever they can.

Weight training for weight men, as referred to in this article, emphasizes a well-planned program of physical exercise by means of which the athlete seeks to build up the strength and co-ordination of the fundamental muscles used in his event by means of a systematic use of progressive resistance exercises. Usually, these exercises are confined to the use of barbells and dumbbells but they also include leverage exercises, cables, etc. This type of training is different from the legitimate sport of weight lifting in which competitors seek to lift maximum single poundages in specified lifts. It also excludes body building in which the individual seeks to develop himself for his own satisfaction. The primary aim of weight men is to build up additional power for better performance in their events.

A quick review of the conditioning programs of a few star weight men shows a definite tendency to follow a scientifically planned training program directed toward power development. Parry O'Brien, present world record holder and the first athlete to achieve 60 feet in the shot, trains diligently with weights both before and after the competitive season. Otis Chandler, who put the shot 57 feet, 4 inches, is another ardent weight trainer. Fortune Gordien set his new world record of 194 feet, 6 inches in the discus in 1953 after a specifically planned weight training program[3]. In February of 1954 Bob Backus established a new world mark in the 35-pound weight throw of 63 feet, 5 inches. He attributed this record to the results of a power developing routine he had followed which emphasized heavy progressive resistance exercises[5].

(Continued on page 64)


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National High School Track Meet

STATE	120 High Hurdles	100 Dash	Mile	880 RELAY	440	180 LOWS	880	220 DASH	POLE	SHOT	HIGH	DISCUS	BROAD	JAVELIN (b)	TOTAL
ALA.	15.7	10.0	4:38.5	1:32.2	51.3	★ 20.4	2:04.9	21.9	11-6	49-6½	5-10	144-9¾	21-8⅜		
ARIZ.	14.6 1¾	10.1	4:37.4	1:31.6	50.5	20.3	★ 1:59.5	22.4	★ 13-1 8	★ 55-4¾	6-1¾	★ 150-6¼	22-4¼		9¾ (14)
ARK.	15.5	10.3		1:34.2	51.8	20.7	2:05.0	22.5	★ 12-4	51-1½	5-2	145-4½	21-2⅞		
CALIF.	[redacted]	[redacted]	4:25.8 4	[redacted]	[redacted]	[redacted]	★	21.2 8	13-0 6	[redacted]	6-5½ 8	159-1½ 1	★ [redacted]		106 (1)
COLO.	15.2	10.2	4:37.3	1:31.2	50.1	20.0	1:59.3	21.7½	12-0	49-10	6-0¼	148-10	★ 23-0½ 6		6½ (16)
CONN.	15.8	★ 10.0	4:32.3	1:34.2	50.8	20.7	1:58.7	22.9	11-0	51-8½	6-1	144-9	21-5½	163-7	
DEL.	No state meet														
FLA.	15.2	9.9 1	4:37.5	1:32.7	★ 50.9	20.6	2:03.6	22.5	12-5	★ 50-2	6-0	145-11	21-9½		1 (24)
GA.	15.7	10.4	4:37.9	1:36.1	53.8	20.8	2:04.6	23.5	★ 12-7⅜	48-10	6-1¾	148-4	20-10¾	★ 180-4¼	
IDA.	15.7	10.6	4:42.4	1:37.2	52.5	21.5	2:01.7	23.5	11-10	★ 51-10	6-0	142-2½	21-6¾		
ILL.	15.0	10.1	4:28.8	1:31.3	49.0 7	19.7	1:57.1 8	21.9	12-4	★ 57-2⅜ 8	6-3¼ 1	★ 162-1⅛ 6	22-0¾		30 (4)
IND.	14.8	10.1	★ [redacted]	1:31.4	50.1	19.7	1:58.4 1	22.0	12-6	54-1½	6-3⅝ 4		22-0		15 (6)
IOWA	15.1	10.0	4:27.5 2	1:30.5 2	49.7 4	20.4	2:01.9	22.2	12-3⅞	51-2⅛	6-1⅛	146-7	21-7		8 (15)
KANS.	15.0	10.1	4:32.1	1:31.9	49.8 1	★ 19.4 4	2:00.1	22.1	12-0	56-2½ 2	6-2¼	147-9	★ 23-5½ 8	181-10½	15 (6)
KY.	15.3	10.5	4:38.5	1:34.7	51.8	20.0	2:01.3	22.6	10-4	47-6⅛	5-8¾	★ 140-5¾	21-2¾		
LA.	15.0	9.9 1	4:39.5	1:33.7	52.1	20.2	2:03.8	21.6 3	12-0	52-10⅜	5-10¾	139-4¾	22-4½	184-2¼	4 (21)
ME.	16.1	10.5	4:35.4	1:37.9	53.6	21.9	2:05.7	23.4	10-9	49-0½	5-9	134-7¾	20-8½	171-8¾	
MD.		10.5	★ 4:36.9	★ 1:34.5	★ 51.9		2:06.9	23.5	★ 10-6	48-8	★ 5-11	131-7½	21-2¾		
MASS.	15.2	10.2	4:30.5	1:31.0	51.5	19.7	2:01.8	21.8	11-4½	53-5	★ 6-4⅝ 6	133-3¾	21-5	★ 175-0½	6 (17)
MICH.	14.7	10.0	4:28.9	1:30.2 6	★ 50.0	19.5 2	1:59.5	21.8	12-4¼	★ 57-0 6	6-0½		21-11½		14 (8)
MINN.	15.4	9.9 1	★ 4:28.6	1:34.5	51.5	20.5	2:01.0	22.4	11-8	★ 56-2¾ 4	6-0	158-4	22-2½		5 (18)
MO.	15.1	9.9 1	4:31.4	1:31.2	50.3	19.8	2:00.7	21.7	12-2	53-2¾	6-1½	151-1 ¾	22-1⅛		1½
MONT.	15.0	10.2	4:40.0	1:32.4	50.8	20.1	2:00.7	22.2	12-2	47-2½	5-5	149-4¼	21-4⅝	179-4½	

MICH.	14.7	10.0	4:28.9	1:30.2 [6]	★ 50.0	19.5 [2]	1:59.5	21.8	12-4¼	★ 57-0 [6]	6-0½		21-11½		14 (8)
MINN.	15.4	9.9 [1]	★ 4:28.6	1:34.5	51.5	20.5	2:01.0	22.4	11-8	★ 56-2¾ [4]	6-0	158-4	22-2½		5 (18)
MO.	15.1	9.9 [1]	4:31.4	1:31.2	50.3	19.8	2:00.7	21.7	12-2	53-2¾	6-1½	151-1¾	22-1½		1½
MONT.	15.0	10.2	4:40.0	1:32.4	50.8	20.1	2:00.7	22.2	12-2	47-2½	5-5	149-4¼	21-4⅝	179-4½	
NEBR.	14.6 [1¾]	9.9 [1]	4:38.7	1:32.0	51.1	★ 19.8	2:00.9	22.4	12-6½	50-10¾	6-0¼	154-5¾	22-9½ [2]		4¾ (20)
NEV.	15.6	10.1	4:49.0	1:33.8	51.4	19.9	2:06.7	22.1	11-6¾	46-3¾	5-9	133-1½	20-9¾		
N.H.	16.3	10.2	4:40.2	1:35.3	54.3	★ 20.9	2:06.1	22.2	11-2	49-4	5-9	129-7½	19-11¼	148-1¼	
N.J.	14.7	10.1	4:25.7 [6]		49.8 [1]	19.9	1:58.2 [2]	21.9	11-6	54-2½	6-3⅜ [2]	153-4¾	22-3	193-4	11 (11)
N. MEX.	15.0	10.1	★ 4:43.9	1:31.4	50.6	20.4	2:03.6	22.8	11-7	★ 52-8	★ 6-2½	148-9¾	★ 22-5⅛	166-3	
N.Y.		10.0	★ 4:23.6 [8]	1:30.0 [8]	50.7	20.1	1:57.4 [6]	22.0	12-3	54-5	6-0¼	[redacted]	21-7⅛		32 (3)
N.C.	15.5	10.2	4:43.7		51.7	21.0	2:01.8	22.4	11-10	43-2	5-9	133-1	20-0½		
N.D.	★ 15.2	10.1	4:45.2	★ 1:35.0	53.5	★ 20.3	2:08.2	22.8	11-0	48-4	5-10½	130-9½	21-4	181-4	
OHIO	14.7	9.9 [1]	4:29.3	1:30.9 [1]	50.2	19.1 [6]	1:58.6	21.6 [3]	12-8 [1]	52-6¼	6-2½	★ 158-7	23-0¼ [4]		16 (5)
OKLA.	14.4 [8]	10.5	4:36.3	1:31.2	51.2	20.4	2:00.5	22.7	11-0	53-1	6-2	159-7½ [2]	22-7		10 (13)
ORE.	15.0	10.1	4:27.7 [1]	1:32.2	51.2	20.1	2:01.1	22.3	[redacted]	55-10¼	5-11⅛	★ 156-11	21-10½	185-0¾	11 (11)
PA.	14.8	9.8 [6]	4:29.8	1:31.9	50.0	20.0	2:00.7	21.5 [6]	12-3	53-6	6-0	146-3	21-10¼	180-5¼	12 (10)
R.I.	No state meet														
S.C.	15.5	10.6	4:50.7	1:35.0	54.0	21.5	2:09.3	23.7	11-2	47-7½	5-11	143-10¾	21-1½	174-0¼	
S.D.	15.2	10.1	4:36.6	1:33.9	★ 49.8 [1]	20.1	2:03.6	22.6	11-3½	★ 50-5¼	5-10½	136-10¼	20-9¾		1 (24)
TENN.	15.0	9.9 [1]	4:38.0	1:34.5	51.5	★ 20.4	2:02.2	22.1	11-9	48-5¾	5-11⅜	★ 147-8½	22-0½		1 (24)
TEXAS	14.5 [6]	9.7 [8]	4:28.8		49.0 [7]	[redacted]	1:57.7 [4]	[redacted]	12-6	54-8¾	★ [redacted]	169-5½ [8]	22-7¼		63 (2)
UTAH	15.6	10.1	4:35.2	1:35.5	51.3	20.0	2:01.6	22.8	12-3	52-0½	6-0	155-8	21-7	171-8	
VT.	★ 15.4	10.6	4:51.2		54.2	23.0	2:10.0	24.4	10-3	40-9	5-9	126-6	19-11	168-7½	
VA.	15.8	10.5	4:47.9	1:36.8	53.0	20.7	2:05.8	22.7	★ 12-10⅛ [4]	★ 56-1 [1]	5-10	★ 153-4½	21-6¼		5 (18)
WASH.	★ 14.6 [1¾]	10.1	4:29.7	★ 1:30.4 [4]	50.1	★ 19.6 [1]	1:58.9	21.9	12-9 [2]	53-7½	6-1	★ 161-3 [4]	22-1	★ 192-3½	12¾ (9)
W. VA.	15.1	10.1	4:38.4	1:32.5	50.0	20.0	2:02.0	23.0	11-6	52-2¾	5-9½	148-7½	21-5½		
WISC.	14.6 [1¾]	10.2	4:34.2	★ 1:31.3	50.9	(a) 23.0	1:59.8	(c) 20.1	12-0	52-7	★ 6-1¾	151-8½	21-9		1¾ (22)
WYO.	15.5	10.2	4:36.6	1:36.1	51.0	21.0	2:03.6	22.3	11-9¾	47-3¾	6-0⅜	139-2½	21-0½		

(a) Wisconsin runs the 200-yard low hurdles. (b) No points awarded for javelin because less than half the states have this event. (c) Wisconsin runs the 200-yard dash.

Track in the High Schools

National High School Track Meet Appears on the Preceding Two Pages.

NINE years ago the Athletic Journal conducted its first "Annual National High School Track Meet." The meet was started for two reasons: First, to encourage the development of track and field in the weaker sections of the country. Second, to give credit to those states and sections which are producing outstanding track athletes. Each year we have been quick to point out that the results for any one year are not a true picture of the strength or lack of strength of any particular state in regard to scholastic track and field. There are too many varying conditions under which the state meets are run to permit an accurate comparison for one year. For this reason constant reference will be made to previous meets and previous point totals.

The meet which appears on the following two pages is based on the results of the state high school track meets held during the spring of 1954. The scoring follows the NCAA procedure of awarding 10, 8, 6, 4, 2, and 1 points for the first six places. A solid red block indicates the best time or distance and a diagonal block indicates a tie for the best performance as in the 180 low hurdles. New state records are indicated by a star.

California Smashes Record

California, which has won every meet but one, took this meet by the largest point total accumulated in the previous eight meets. The previous high was 94¾ points scored in the 1951 meet. In the 1951 meet California won eight events which compares with the seven events won and one tied in this meet. It is interesting to note that although California increased its previous high by better than 11 points; nevertheless its margin over the second place team was only 43 points as compared to the 52 point margin in the 1951 meet. In the 1951 meet California scored in twelve of the thirteen events as it did last year. This year's meet marks the first time that any state has scored in every event. California has now scored in 96 out of 108 events in which it has competed.

California has won 48 events for an amazing percentage of .444. The breakdown shows six victories in the shot put, five wins in the high hurdles, 100-yard dash, 880 relay, the pole vault, and the broad jump. The mile and quarter-mile have each been won four times, while three victories have been scored in the half-mile. Two wins have been recorded in the low hurdles and the high jump, and but one victory in the 220-yard dash.

The Top Ten

There was a surprisingly small change between the top ten teams in this year's meet and the top ten of a year ago. California's point total was 17 more than it was a year ago. Texas registered one point less than it did last year, while New York's total was only three-quarters of a point less than it was in the previous meet. For the past two years New Jersey was in fourth place behind neighboring New York. This year New Jersey missed being in the "top ten" by 1 point. Illinois, a member of the select group until the past two years, returns to the elite with a fourth place total of 30 points, only 2 points behind New York. Last year Ohio skidded out of the list of leaders for the first time but returns with 16 points, good enough for fifth place. Indiana raised its total 3 points and moved from tenth to sixth place, a spot it shares with Kansas. This marks Kansas' second appearance among the "top ten" although it just missed last year, finishing in eleventh place. Michigan, for the first seven years of the meet compiled an aggregate total of 20 points, and last year and this year scored 14 points each year. A year ago the 14 points brought a ninth place finish. This year the same number of points was good enough for eighth place. Washington, which has been among the leaders in 1951 and 1953, is in ninth place. Pennsylvania dropped from sixth to tenth and it is interesting to note that 12 points were necessary both this year and last year to secure a spot in the "top ten."

There were no newcomers to the "top ten" this year because in addition to the six repeaters from 1954 the other four had appeared in the group at least once previously. California and Texas have been in the group each time, while Ohio and Indiana have only missed once. Illinois has been listed seven times and New York and Pennsylvania have appeared six times. New Jersey is right behind its neighboring Middle Atlantic states with five listings. Iowa has appeared four times; Washington and Oregon three times each; Kansas, Massachusetts, Michigan, and Missouri twice; and Arizona, Colorado, Connecticut, Florida, Louisana, Tennessee, and Virginia once each.

Standings

As mentioned previously, it is necessary that this meet be studied over a period of a few years in order to get a true picture. For that reason we present the totals for the nine meets.

1. Cal.	729	20. Conn.	40
2. Tex.	377	Vir.	40
3. Ohio	267 2/3	22. Louis.	39
4. Ill.	251	23. Fla.	29
5. Ind.	231	24. Minn.	28
6. N. Y.	218	25. Neb.	27 3/4
7. N. J.	170	26. Mont.	19
8. Iowa	144	27. Utah	18
9. Okla.	133	28. Ida.	15
10. Penn.	131 1/2	Tenn.	15
11. Ore.	87	30. N. Dak.	8 1/2
12. Wis.	84	31. Ky.	8
13. Kan.	83	32. N. Mex.	6
14. Wash.	80 3/4	33. S. Dak.	5
15. Mass.	77	W. Va.	5
16. Mo.	75 1/2	35. Ga.	1 5/6
17. Colo.	73 1/2	36. Ala.	1 1/2
18. Ariz.	53 1/4	37. Miss.	1
19. Mich.	48	38. Wyo.	1/3

There was no change among the first ten teams, although Illinois and New York are continuing to close the gaps on Ohio and Indiana respectively. Indiana had been catching up to Illinois but lost ground in this year's meet. Oregon and Wisconsin switched places and Kansas jumped from sixteenth to thirteenth place. There is a spread of only 13½ points between eleventh and seventeenth places.

Two years ago Michigan was in twenty-second place, 13 points out of the next place. Last year Michigan

(Continued on page 61)

National Honor Roll

Competitor and School	Meet	Time
100-Yard Dash		
Jackson (Alameda, Calif.)	No. Coast Sec. Prelim.	9.4
King (Delano, Calif.)	West Coast Relays	9.6
Morrow (San Benito, Texas)	Texas Relays	9.6
Swisshelm (Santa Ana, Calif.)	So. Sec. Semi-Finals	9.7
Dorsey (Santa Monica, Calif.)	Bay League	9.7
Wooten (Baxter Springs, Kans.)	Neosho Valley League	9.8
Schneider (Holy Cross, New Orleans, La.)	Nord-Meet of Champions	9.8
Sydnor (Haverford, Pa.)	State	9.8
McSlarrow (Central, Tulsa, Okla)	Oklahoma Six Conf.	9.8
Graham (Pomona, Calif.)	Citrus Belt League	9.8
Jackson (Manual Arts, Los Angeles, Calif.)	Southern League	9.8
Alston (Roosevelt, Los Angeles, Calif.)	South League Prelim.	9.8
Robinson (Los Angeles, Calif.)	Western League	9.8
Hall (Edison, Fresno, Calif.)	City	9.8
Gainey (Colorado City, Texas)	Regional	9.8
Lewis (Pampa, Texas)	Regional	9.8
220-Yard Dash		
Swisshelm (Santa Ana, Calif.)	So. Counties	20.8
Harber (Lubbock, Texas)	Regional	21.0
Jackson (Alemeda, Calif.)	No. Coast Sec. Prelim.	21.0
Morrow (San Benito, Texas)	State	21.1
Hall (Edison, Fresno, Calif.)	City	21.1
King (Delano, Calif.)	State Prelim.	21.2
Curtis (Denver City, Texas)	Regional	21.2
Dorsey (Santa Monica, Calif.)	Bay League	21.3
Walter (Jefferson, Los Angeles, Calif.)	So. League Prelim.	21.5
McFadden (Polytechnic, Long Beach, Calif.)	City	21.5
Jackson (Manual Arts, Los Angeles, Calif.)	City	21.5
Simerville (Northside, Atlanta, Ga.)	State AA	21.5
Sydnor (Haverford, Pa.)	State	21.5
440-Yard Dash		
Kitchen (Riverside, Calif.)	State	48.7
King (Salinas, Calif.)	Coast Counties League	48.7
Emerson (Richmond, Calif.)	No. Coast Section	48.8
Caffey (LaGrange, Ill.)	State	49.0
Kennedy (Garland, Texas)	State	49.0
White (Corcoran, Calif.)	Central Section	49.3
Bowden (Polytechnic, Los Angeles, Calif.)	Eastern League	49.3
Harper, Alameda, Calif.)	No. Coast Section	49.4
Burbridge (Laughlin, New York, N. Y.)	Catholic Schools Meet	49.4
880-Yard Run		
Bowden (Lincoln, San Jose, Calif.)	No. Coast Section	1:52.3
Anderson (Van Nuys, Calif.)	City	1:55.2
Pratt (Palmyra, N. J.)	County	1:56.8
DeLong (Waukegan, Ill.)	State	1:57.1
Stealey (Dorsey, Los Angeles, Calif.)	City	1:57.4
Stallman (Scarsdale, N. Y.)	State	1:57.4
Mosshart (Abilene, Texas)	State	1:57.7
Giyer (Grossmont, Calif.)	San Diego City	1:58.0
Smith (North, Des Moines, Iowa)	District	1:58.0
Hofman (Wallace, Gary, Ind.)	State	1:58.4
Havens (Avenal, Calif.)	Central Sec. Div.	1:58.4
One Mile Run		
Truex (Warsaw, Ind.)	State	4:20.4
Camillo (Mt. Pleasant, Schenectady, N. Y.)	State	4:23.6
Hadley (Bellflower, Calif.)	So. Sec. Prelim.	4:24.1
Skutka (Morris Hills, N. J.)	State	4:25.7
Kerr (West York, Pa.)	District	4:27.0
Cushman (Ames, Iowa)	State	4:27.5
Elwood (Elliott, Iowa)	District	4:27.7
Robbins (Roseburg, Ore.)	State	4:27.7
Stephens (Palo Alto, Calif.)	Peninsula Ath. League	4:27.9
120-Yard High Hurdles		
Johnson (Kingsburg, Calif.)	State	14.3
Hollingsworth (Taft, Calif.)	West Coast Relays	14.3
Easlon (Classen, Oklahoma City, Okla.)	State	14.4
Gilbert (Linden, N. J.)	State Prelim.	14.4
Biggs (Sanger, Calif.)	Central Section	14.4
Upshaw (Piedmont, Calif.)	State Prelim.	14.4
McMurray (San Bernardino, Calif.)	So. Section Semi-Finals	14.4
Dudley (Pampa, Texas)	Regional	14.5
Daniel (Yuma, Ariz.)	State	14.5
Southern (Sunset, Dallas, Texas)	State	14.5
Griffin (Alameda, Calif.)	Alameda County League	14.5
Newman (Burlingame, Calif.)	No. Coast Section	14.5
Chester (Andrews, Texas)	Regional	14.5
Foster (Mt Vernon, Ind.)	Petersburg Relays Prelim.	14.5
Lawson (Aberdeen, Wash.)	Tri-District	14.5
180-Yard Low Hurdles		
Swisshelm (Santa Ana, Calif.)	Compton Cup	18.7
Upshaw (Piedmont, Calif.)	No. Coast Section	18.8
Smallwood (Galena Park, Texas)	State	19.0
Johnson (Kingsburg, Calif.)	State Prelim.	19.0
Davis (Barberton, Ohio)	State	19.1
Darby (Pampa, Texas)	Regional	19.2
Hollingsworth (Taft, Calif.)	Central Section	19.3
White (Fresno, Calif.)	City	19.3
Bullock (Lowell, San Francisco, Calif.)	City	19.3
Field Events		**Distance**
Pole Vault		
McKay (Inglewood, Calif.)	So. Sec. Finals	13-7½
Rose (Hoover, Glendale, Calif.)	So. Sec. Finals	13-7½
Brewer (North, Phoenix, Ariz.)	Luke-Greenway	13-6¼
Gaunt (Mt Diablo, Concord, Calif.)	West Coast Relays	13-4
Whitney (Benson Tech., Portland, Ore.)	State	13-1⅜
Dye (Clovis, Calif.)	Central Section	13-1⅛
Couchman (Fresno, Calif.)	Central Section	13-1⅛
Vaughn (Glendale, Ariz.)	Luke-Greenway	13-1
Charles (North, Phoenix, Ariz.)	State	13-1
Bullard (North, Phoenix, Ariz.)	State	13-1
High Jump		
Dailey (Hayward, Calif.)	Martinez Relays	6-7
Kelly (Sunset, Dallas, Texas)	State	6-5⅝
Miller (Crane, Texas)	State	6-5⅝
Dumas (Centennial, Calif.)	So. Sec. Finals	6-5½
Thomas (Jefferson, Los Angeles, Calif.)	So. League	6-5½
Reavis (Somerville, Mass.)	U. S. Naval Inter.	6-5⅛
Theus (Technical, Oakland, Calif.)	City	6-4¾
Miller (Newton, Mass.)	State	6-4⅝
Lawson (Aberdeen, Wash.)	Tri-District	6-4½
Broad Jump		
Upshaw (Piedmont, Calif.)	State	25-4¼
Watkins (Jordan, Los Angeles, Calif.)	Watts Inv.	24-3½
Stafford (Jefferson, Los Angeles, Calif.)	State	23-8½

Compiled by E. A. THOMAS

Matthews (Jordan, Los Angeles, Calif.)	Eastern League	23-6½
Floerke (Rosedale, Kansas City, Kans.)	State	23-5½
Johnson (Rice, N. Y.)	Catholic Schools Meet	23-3⅝
White (Arlington Hts., Fort Worth, Texas)	Regional	23-3½
Nelson (Manual Arts, Los Angeles, Calif.)	So. League	23-3
Johnson (Kingsburg, Calif.)	Kern Relays	23-1
Keeling (Manual Arts, Los Angeles, Calif.)	So. League	23-1

Shot Put

Everage (Jordan, Los Angeles, Calif.)	City	60-10¾
Bronson (Grossmont, San Diego, Calif.)	City	60-4½
Velen (Roosevelt, Los Angeles, Calif.)	City	59-5½
Stafford (Jefferson, Los Angeles, Calif.)	City	58-2
Geremia (McClatchey, Sacramento, Calif.)	San-Joaquin Section	57-2½
Winterbauer (Arlington Hts., Ill.)	State	57-2⅜
Boyden (Muskegon, Mich.)	State	57-0

Discus Throw

Oerter (Sewanhaka, N. Y.)	State	184-2¾
Winterbauer (Arlington Hts., Ill.)	Riverside-Brookfield Rel.	175-5½
Johnson (Kingsburg, Calif.)	Muir Decathlon	174-4¼
Glass (Delano, Calif.)	Yosemite League	172-2¾
Irvin (Amarillo, Texas)	Sandie Relays	171-0
Bonzer (Heyworth, Ill.)	District	166-6½
Pellant (East, Rockford, Ill.)	State	162-1⅛
Kinnamon (Centralia, Wash.)	State	161-3

Javelin Throw

Orowitz (Collingswood, N. J.)	State	193-4
Martin (Lake Washington, Kirkland, Wash.)	State	192-3½
Taylor (Salem, Ore.)	State	185-0¾
Chappetta (Kenner, La.)	State	184-2¼
Cassity (Cassoday, Kans.)	State	181-10½
Thomason (Fargo, N. Dak.)	State	181-4
Brocsious (Easton, Pa.)	State	180-5¼
Spear (Columbus, Ga.)	State	180-4¼

440-Yard Relay

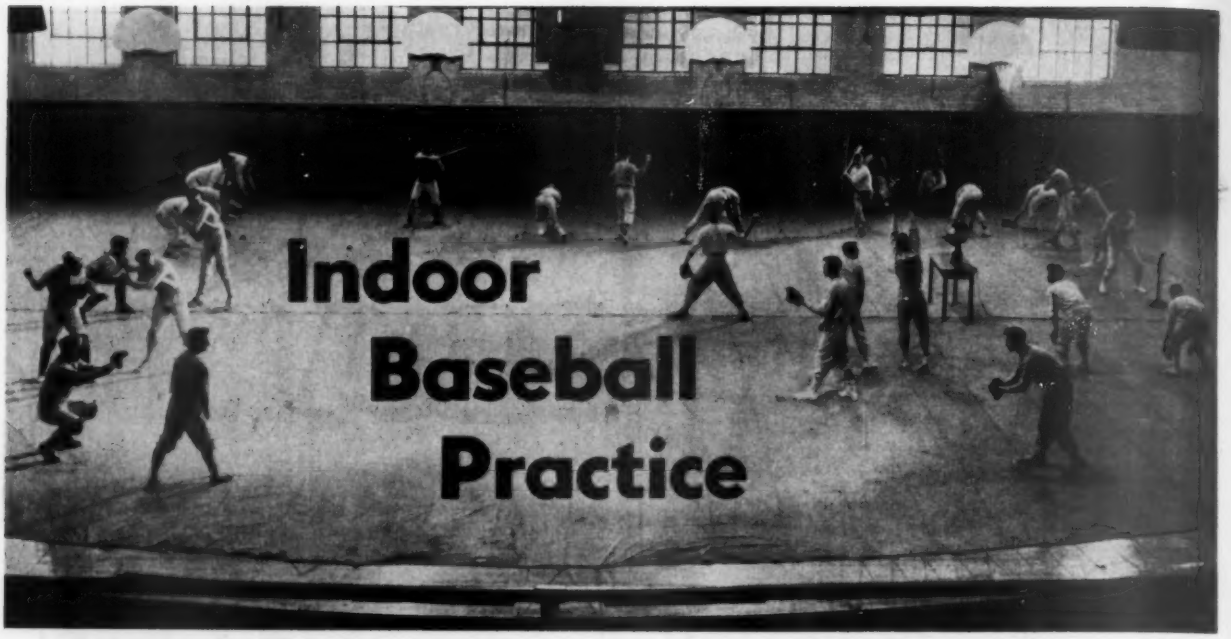
Abilene, Texas	State	42.5
Pampa, Texas	Regional	43.1
Stephen Austin, Houston, Texas	Regional	43.2
Marshalltown, Iowa	State	43.5
Highland, Albuquerque, New Mex.	State	43.9

One Mile Relay

Robert E. Lee, Baytown, Texas	San Antonio Inv.	3:19.8
North, Des Moines, Iowa	District	3:22.3
Galena Park, Texas	Regional	3:23.5
Lyons, LaGrange, Ill.	State	3:24.0
Ames, Iowa	District	3:25.7
Elkhart, Ind.	State	3:25.8
Abilene, Texas	Cowtown Relays	3:26.1
John Adams, Cleveland, Ohio	State	3:26.4
Central, Tulsa, Okla.	State	3:26.4
Northside, Fort Worth, Texas	Regional	3:26.5

880-Yard Relay

Alameda, Calif.	No. Coast Section	1:28.4
Manual Arts, Los Angeles, Calif.	State Prelim.	1:28.7
Santa Ana, Calif.	So. Sec. Finals	1:29.1
Los Angeles, Calif.	State Prelim.	1:29.1
Monrovia, Calif.	So. Sec. Semi-Finals	1:29.3
Fremont, Los Angeles, Calif.	State Prelim.	1:29.8
Edison, Fresno, Calif.	City	1:29.8
North, Des Moines, Iowa	District	1:29.9
White Plains, N. Y.	State	1:30.0



Indoor Baseball Practice

THIS article will be devoted to a discussion of production line indoor baseball practice which is designed to keep the players busy doing things which will be of advantage to the team until conventional outdoor practice can be started. Many coaches are forced to play their first game without the benefit of a good outdoor practice.

We coach under high school conditions and have a medium size gymnasium. Due to our late springs we have very little opportunity for outdoor practice before the start of the season.

Our aim is to develop baseball players and keep as many boys busy at one time as possible indoors. The length of time a boy is able to practice is very vital. When practice is not organized or the coach is not using all of the facilities at his disposal, it is necessary to operate in smaller groups, thus cutting down the time each boy is able to practice each day. We try to organize our practices in such a way that when we move outdoors we will not have to spend valuable time on fundamentals.

Calisthenics and Running

As soon as the boys report to the gymnasium we have them start to play catch. When the entire squad has assembled calisthenics are started. The boys are given calisthenics for about 15 minutes and then we have them run around the block. This run is timed.

Running is used to get the players' legs and wind in shape. They can run even if there is snow on the ground. If it is cold, we instruct the boys to keep their tongues between their teeth. Thus the cold air is warmed before it reaches the lungs.

Pepper Practice

This is possibly the most common practice which is used indoors. The amount of benefit derived from it varies both in the opinion of the coaches and in the type of practice that is adopted.

The boy who is batting tries to place the ball from one boy to the next. The boy who is to receive the next hit will have to move quickly to get in front of the ball. Everyone has to be ready because the unexpected is always happening.

Another type of pepper can be conducted by lining the boys up in a circle and having the ball thrown to no player in particular at a rate of speed which is safe. This pace should be varied. This type of practice develops alertness and gives a player the catching exercise which is lacking in handball, as described below.

By DALLAS STALL

Baseball Coach,

Charlotte, Michigan, High School

Handball

Any smooth section of unbroken wall can be used for this operation. If hand balls are not available, any kind of a ball from a tennis ball down to a small rubber ball would be satisfactory for this type of practice. We have a cement wall and throw a rubber-coated baseball against it for individual practice.

This operation conditions the player's body and develops his ability to stop and start—go to the right and left. His body movements and reflexes are the same as they are in baseball and when he gets outdoors only a slight adjustment will be necessary.

Pitching and Catching

Developing pitchers and catchers is possibly one of the most important factors necessary for a winning ball team.

Many coaches are not blessed with the material they would like to have in this field. However, it is a fairly easy job to condition pitchers and catchers.

Our players supply their own gloves and we furnish the catcher with his catching equipment. The catcher wears full equipment whenever he is catching. We use a 65-foot area of well-lighted floor to practice pitching and catching. Two ropes are stretched across one end of the gymnasium and two ropes are tied to form a rectangle the size of the strike zone.

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DALLAS STALL has been coaching baseball for nine years. His first position was at Allegan, Michigan, High School where he won the conference championship. Moving to his present location the next year, he won championships in 1949, '50, '53, and last spring. His 1953 team had a batting average of .318 and last year's team had an average of .342.

Coaches have varied opinions on the proper way to bring a boy's arm into shape. However, we suggest that the pitcher and the catcher perform as though they were actually playing in a regulation game. Let the pitcher wind up and throw without a runner on base. Then let him use the stance and throw as if a runner were on first, second or third. While it is impossible to throw to the different bases, the pitcher can keep himself in a position to make the throw.

After two or three days of pitching, when the pitcher has become more poised and has developed his control, we strongly advise that a man without a bat be stationed at the plate. A little later on we put two men at the plate. Neither player is given a bat. However, these men at the plate help to develop the pitcher and catcher under regulation conditions, and it also gives the batter a more relaxed feeling when he is batting in an actual game.

Plate Stance

The boy who is placed at the plate without a bat keeps his eye on the ball from the time it leaves the pitcher's hand until it goes into the catcher's mitt. It is advisable to let the boy go through all of the motions as if he had a bat in his hand. He also calls out *ball* or *strike*.

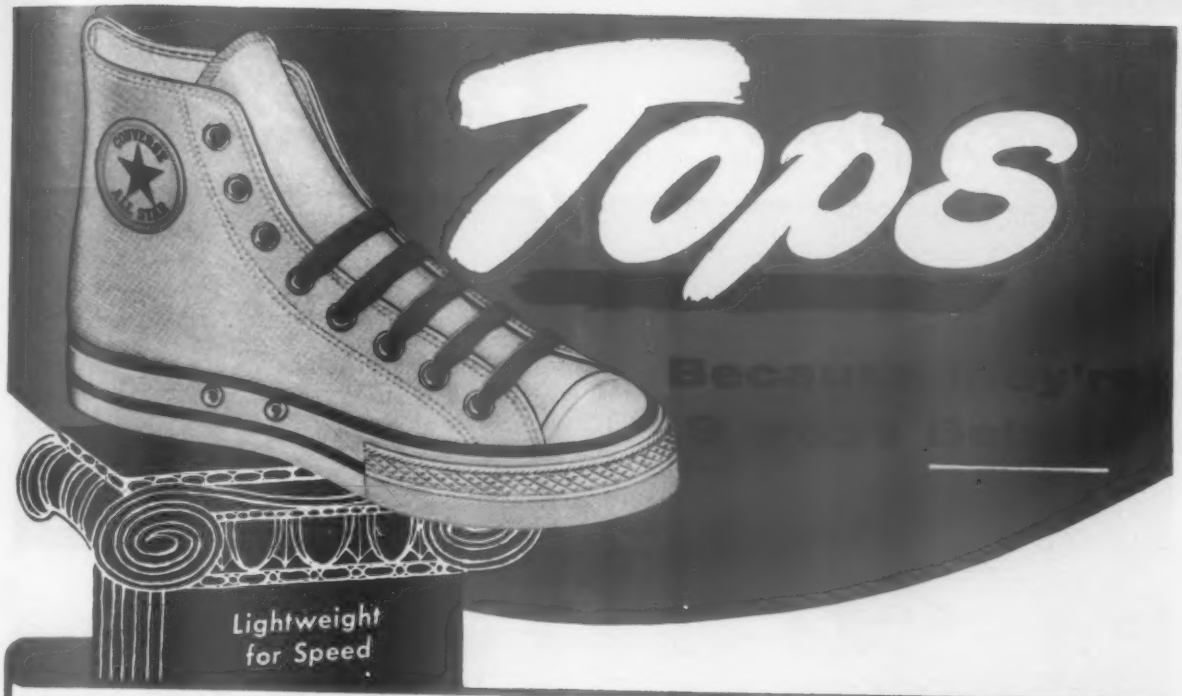
Dry Swinging

A great deal can be accomplished through dry swinging to correct the faults of potential batters. The batter will learn his fundamentals from this practice.

Each boy is given a bat and enough space is allowed between each one to permit a free and easy swing. Each boy should be warned of the dangers of perspiring hands and the chance of the bat slipping out of his grasp.

In this type of practice the coach's

(Continued on page 59)



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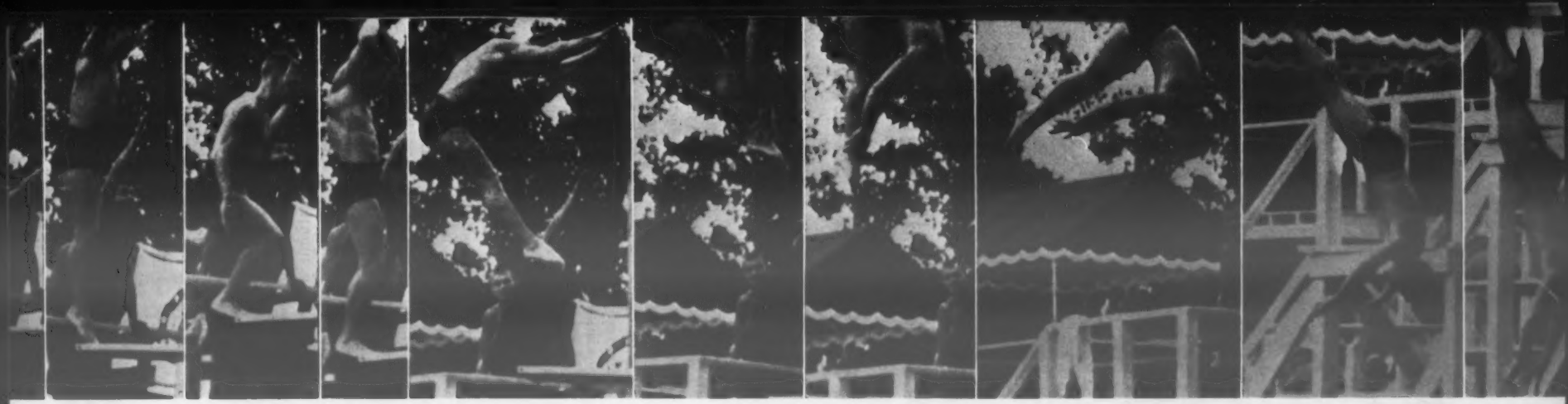

Group Number IV
Dive Number 400
Difficulty 1.2

Backward Jackknife or Cutaway Swan

(Back Jackknife shown here)

(Concluded on page 48)

Starting Position: 1. Was the diver's body straight? 2. Was his head erect? 3. Were his arms stretched forward, level with and the width of his shoulders apart? 4. Were his fingers together? 5. Was balance maintained once the starting position was assumed?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did the take-off display confidence?

Technique During Flight: (A) Jackknife or Pike. 1. Was the apex of the dive reasonably high? 2. Was the diver's body bent sharply at the hips? 3. Were his legs straight at the knees? 4. Were his legs together and his toes pointed? 5. Was the jackknife (pike) as compact as possible? 6. Were the diver's arms stretched and placed one on each leg as near his ankles as possible? 7. Was the course of flight correct?

(B) Cutaway Swan. 1. Was the apex of the dive reasonably high? 2. Was the diver's head held up well? 3. Were his arms stretched sideways in line with his shoulders? 4. Were the diver's arms kept still until just before his entry into the water? 5. Were his feet together and his toes pointed? 6. Was the course of flight correct?

Entry Into the Water: 1. Was the diver's entry head first? 2. Were his arms stretched overhead? 3. Were his toes pointed? 4. Was the diver's body straight? 5. Was his entry as near vertical as possible?

In Illustration 1 the diver is beginning to oscillate the board in preparation for his press. He is in an excellent position. His arms are lifted side upward in line with his body. In Illustration 2 the diver's arms have reached their maximum height and are beginning to be brought downward in preparation for the press of the board. The diver is in somewhat of a falling position, having crouched too much (Illustration 3). Illustration 4 shows the diver being projected upward from the board. His arms have been lifted to a point above his head. It is also noticeable that he is falling slightly backward which causes the effect shown in Illustration 5. His hips are forced backward and upward, and his legs are allowed to come too far forward in front of his trunk so that in Illustration 6 he is shown again in a somewhat dormant position as to forward rotation. If he had used good technique, the diver would not have allowed his legs to come forward past a vertical line as shown in Illustration 7. The position shown here is very good but should have been made at an earlier point in the dive. Illustration 8 shows the diver coming out of his pike position which is in good form. The descent or stretch to the water and the process of aligning the body for an entry in shown in Illustration 9. Illustration 10 shows a continuation of this alignment but, in our opinion, the diver's arm should be nearer his head. We feel that the diver should have completed the pike and assumed this position at a point much higher than is shown in this dive. In our opinion, those earlier errors on the diver's part in allowing his legs to be brought upward in front caused the delay in completing the pike and assumed the proper position.

NEW BOOKS

This Is Trampolining, *by Frank LaDue and Jim Norman. Published by Nissen Trampoline Co., Cedar Rapids, Iowa. One hundred and sixty-eight pages.* $8.00.

Every once in a while we review a book in this column which we feel is a classic. We consider this such a book. While the book is on a relatively new sport, it incorporates an idea which books on other sports might well follow. We refer to the use of flip pictures. By arranging better than 500 illustrations along the outside edges of the pages and flipping the pages with the thumb, the live action of 15 different sequences is portrayed.

The pictures themselves were taken with a high-speed camera of the type which the Athletic Journal uses for its sequence photos. The book is printed on the highest grade enamel stock which is of such a weight that the pages flip easily and separately. In fact, few books in a library will be printed better than this one.

The authors are graduates of Iowa, LaDue finishing second in the 1952 NCAA meet and first in the Olympic trials. Jim Norman was first in the trampoline event in the NCAA meet last spring. The foreword was written by Gene Wettstone, Olympic and Penn State gymnastics coach.

In addition to the high-speed photos, there are 42 line drawings which further clarify the text. The authors devote 33 pages to a detailed plan for 40 lessons in teaching the event. Another chapter is addressed to the instructor, while the fundamentals and mechanics of trampolining, analysis of basic stunts, and advanced trampolining are discussed in other chapters. A rather extensive glossary including trampoline nomenclature and a bibliography of suggested books and articles completes this outstanding book.

Very wisely the publishers have prepared a mailing piece taken right from the press run. It shows the type of material to be found in the book. The circular may be received at no cost by checking the Service Coupon on the last page of this book.

Introduction to Physical Education, Health Education, and Recreation *by Margaret M. Duncan and Ralph H. Johnson. Published by Prentice-Hall, Inc., New York 11, N. Y. Three hundred and eighty-eight pages. Price* $6.60.

This is the latest book in the ever-expanding Prentice-Hall Physical Education Series which is under the expert direction of Elmer Mitchell. Like others in the series, this book is designed for a specific purpose which is: "To indicate the interests, abilities, and personal characteristics that are important to professional workers in physical education, health education, and recreation."

180 Games for One Player, *by J. B. Pick. Published by Philosophical Library, New York 16, N. Y. One hundred and thirty-seven pages.* $3.75.

This book has the complete rules and instructions for games for one player in every type of activity. There are outdoor games which comprise ball games, eye games, and tool or toy games. The indoor games are classed as board, table and floor games; pencil and paper games; head games; and patience games. A rather unique book for the physical education instructor or the school library.

"Off the boards"

REBOUNDING—going up to *get that ball* "off the boards," sprinting down the floor, stopping, twisting, makes top speed all the way with *no fatigue* mighty important. The pace of modern basketball is tough and rugged . . . and it calls for the firm support of a rugged Bike supporter. Tiring strain caused by the lack of a good supporter can lose games in those vital, final minutes; so all coaches in every sport know the value of a good supporter in preventing strain in the vital zone.

Bike supporters, designed with the help of leading athletes and coaches, help give your players the lasting stamina that keeps them in there to the fighting end of every game . . . And there's a Bike support for *every* sport. Make sure your athletes wear Bike! The facts speak for themselves —*more athletes have worn Bike than any other brand.*

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THE BIKE WEB COMPANY
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Bike No. 10 Supporter with form-fit knitted cotton and rayon pouch. First choice of coaches, trainers, athletes. Soft, flexible 3″ waistband, 1″ leg bands.

Group Number IV

Dive Number 404

Difficulty 2.5

Illustration 1 shows the diver in the process of taking his press from the board. It will be noticed that there is a slight bend of his trunk forward at the hip region and his arms are being brought upward above his head. In Illustration 2 we see the diver at a point just before his feet leave the board. His arms are now above his head and starting downward. Illustration 3 shows the diver folding into his tuck position. His hands are about to grip his legs just below his knees and he will bring his heels in as tight to his buttocks as he can. Thus as compact a position as possible will be offered to facilitate the spin which is most essential in this difficult dive. The body is in the tuck position (Illustration 4) and the diver has completed three-quarters of a somersault. He has yet to reach the apex of his lift. Illustration 5 shows that the diver has rotated one complete somersault at the apex of his lift. The beginning of the second somersault, with the diver in good position, is shown in Illustration 6. Illustration 7 shows a one and three-quarters somersault. The diver has completed two somersaults (Illustration 8). Illustration 9 shows the diver beginning to open up his tuck in preparation for his stretch to the water. Again we see the diver in the process of opening (Illustration 10). From the illustrations we would analyze the dive as follows: The movements which are shown indicate very good technique but the diver lacks a spin forceful enough to rotate two and one-half times forward and complete this rotation at a point higher above the water than is shown.

Cutaway Two and One-Half Somersault in the Tuck Position

Starting Position: 1. Was the diver's body straight? 2. Was his head erect? 3. Were his arms stretched forward, level with and the width of his shoulders apart? 4. Were his fingers together? 5. Was balance maintained once the starting position was assumed?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did the take-off display confidence?

Technique During Flight: 1. Was the apex of the dive reasonably high? 2. Did the somersault commence as soon as the diver left the board? 3. Was the tuck as compact as possible with the diver's knees together and his toes pointed? 4. Was the course of flight correct?

Entry Into the Water: 1. Was the entry head first? 2. Were the diver's toes pointed? 3. Were his arms stretched overhead? 4. Was the diver's body straight? 5. Was the entry as near vertical as possible?

The Take-Off: 1. Was the take-off from both feet simultaneous? 2. Did body straight? 5. Was the entry as near vertical as possible?

Elkhart Gym

(Continued from page 10)

manent bleachers. The balance are the roll-back type which can be pushed back or extended as desired. When the bleachers are rolled back the exposed floor space is used for physical education classes and other activities. The seats are divided into sections – eight sections on the main floor and the balance on the mezzanine and balcony. Every seat in the gymnasium commands a view of the entire playing court. There are no posts to block the view.

Special Rooms

Located under the balcony and on either side of the building are dressing rooms, offices, checkrooms, press and radio rooms, training and first aid rooms, and an equipment room. There are separate dressing rooms for reserve teams, varsity teams, and visiting teams. Each room is equipped with showers and rest room facilities. The showers are the walk-around type. A student can soap and then rinse as he walks around and out of the shower. All water is thermostatically controlled. Each dressing room is equipped with hangers and standard locker room equipment. Every room has an intercommunication system which keeps its occupants in touch with the official timer and activities outside of dressing rooms, before the game or during intermission.

Besides the dressing rooms for participants in athletic contests, there are those for physical education classes. These are equipped in the same manner as the others. An equipment room has been especially designed for the storage of athletic equipment and clothing – racks for uniforms and storage cabinets for

GLENN SILCOTT graduated from Kansas State Teachers College (Pittsburg) in 1935 and coached all sports at Prague, Oklahoma until 1942 when he entered the navy. He served for two years on Paul Brown's staff at Great Lakes and on his return to civilian life coached York High School in Elmhurst, Illinois to a league championship. He has been at Elkhart for eight years, relinquishing the football post two years ago to devote full time to the administration of the athletic department.

supplies. A first aid room for spectators and a training room are provided and equipped to take care of injuries or emergencies, or they can be used by the coaches for general training purposes. Rooms which can be used as offices by the coaches and officials are provided. These rooms are complete with rest room facilities.

Press, radio, and TV personnel have their own spots where they can retire or work. These rooms are complete with telephones. Almost one entire side of the building is devoted to shop and vocational classrooms. These are furnished with modern equipment and are used daily by students from the adjoining North Side Junior High School. Space for a laundry room has been provided.

Other Features of the Gymnasium

Our gymnasium is adequately heated by large steam heating units. Ventilation is provided by large fans which bring in air direct from the outside and they can be turned on and off. One of the unique features of the building is the lighting system. Lamp power surpasses that which is recommended for classroom work. The acoustics are good and 16 strategically placed loud-speakers provide high audio efficiency.

Decoration

Yellow and green were the colors chosen for the walls, ceiling, and rafters of the main playing area. Cool green and soft yellow were used as the basic colors throughout the interior with touches of turquoise, dusty rose, and various shades of blue and green being used as secondary colors in the individual rooms. The terrazzo floors pick up the colors effectively with their tiny chips of gray, black, rose, and green set in white cement. Yellow and white hallways also give an impression of air.

Flat Feet

(Continued from page 30)

wanted to explore the roots of the problem; could it be that all of our previous observations and deductions were wrong? If so, wherein was our mistake? Furthermore, our own deductions coincided with everything we had found in the literature on the problem. Could it be that the literature consulted was also wrong?

There was only one way to find out, and that was to examine Mr. Wright's feet. It was agreed that at the next meeting of the class, he would submit to a foot examination which would include the taking of prints. The latter, we felt, should prove extremely helpful in settling the issue, because many, if not most texts on the problem of flat feet generally submit a series of prints which aim to illustrate high, moderate, low, and flat arches; the implication being that there exists a definite relationship between the contour of the print and the height of the arch. Print No. 1 (Illustration 1) shows a high arch, and print No. 4 a flat one.

At the next session of the class, we were all set for the showdown. One glance at his feet was sufficient—Mr. Wright was right. Not only did his feet look flat, but the prints proved it. Look at print No. 2 and compare it with print No. 4 (Illustration 1).

Yes, Mr. Wright apparently had flat feet and flat feet are not con-

sidered sufficiently springy to permit superior achievements in such activities as sprinting; yet, Mr. Wright was a superior sprinter. Instinctively, we felt that our deductions were right, but we also knew that feelings may lead one far astray from facts, and in this case the facts against us were overwhelming. To doubt Mr. Wright's sprinting ability would have been the height of folly; yet, every effort to accept the apparently equally evident fact, that he had flat feet, always gave rise to a rebellious echo: "We can't believe it! We can't believe it!"

On and off, for the next few days and nights we schemed and dreamed about the problem. Mentally, we were straddling a barbwire fence, and it began to hurt. Before long, we would have to dismount, but neither side of the fence looked attractive.

It appeared clear, however, that any further investigation of the problem must be directed, not towards Mr. Wright's sprinting records but into the diagnostic methods used in classifying his feet as flat. With this approach in mind, the question arose as to whether or not the terms flat foot and flat arch were as interchangeable as indicated by common usage. There was one way of finding out and that was by X-ray. At the time, it seemed desirable to get a picture with the foot in a relaxed position. Therefore, the picture was taken (medio-laterally) with the subject in a sitting position, the knees widely separated, and with the plantar surfaces in close apposition. However, subsequent information now convinces us that another picture, with the subject in a standing position, should have been taken to show what changes occurred in the foot and arch, when subjected to the body weight.

For comparative purposes, another individual with well-formed arches was subjected to the same type of examination as was Mr. Wright. The following comments appear appropriate, on the basis of the prints which are shown in Illustration 1. Mr. Wright had flat feet (arches), and subject No. 2 had a high arch. On the basis of the X-ray picture, Mr. Wright had a moderate arch, while subject No. 2 remained in the high classification. Why did not the prints show that Mr. Wright had a moderate arch, as did the X-ray picture? A closer examination of the two X-ray pictures gave us a clue.

In the case of Mr. Wright, the plantar subcutaneous tissue, fatty an/or muscular, was clearly the more abundant, and as such served to push the plantar skin farther away from the arch itself than was the case in subject No. 2. The inevitable result, of course, was that a foot, with such excessive subcutaneous tissue, not only appears flat to the eye but also leaves a flat print which correctly demonstrates a flatness of the plantar surface, but not necessarily of the arch itself. We say, *not necessarily* because, although a flat arch must of necessity produce a flat plantar surface and a flat print, it does not

DR. BENSON graduated from Valparaiso University and coached at his alma mater during World War I. He was appointed trainer at the University of Chicago in 1925. While there he earned his doctor's degree in physiology. Next he served as Director of Physical Therapy at Michael Reese Hospital in Chicago. During World War II he worked on vitamin research and since 1947 has been at Wayne University where the greater part of his duties are in connection with the Physiotherapy Department of the Student Health Service.

automatically follow that the reverse is true. In other words, a flat print proves that the foot is flat, but it does not prove that the arch is also flat and/or weak.

At this point in our search we stopped to reflect. Gradually the fog lifted, daylight began to filter through, and the picture assumed a more definite outline. Indeed it began to appear as if our earlier suspicion was correct; namely, that the terms flat foot and flat arch are not as interchangeable as indicated by common usage. It also seemed fair to assume that in cases like that of Mr. Wright, the abundant subcutaneous plantar tissue would be due, at least in part, to hyper developed plantar muscles; and, if so, would not such development tend to make the foot even stronger than one without such extra development? Furthermore, do such well-developed plantar muscles constitute, in part, the explanation for the superior achievements of some of our noted flat-footed athletes?

We had passed the *point of no return* and were seeing land ahead. To us it was a new unexplored land, but nevertheless a welcome and thrilling sight. Yet, we were perplexed; could it really be true that our studies as well as all the texts previously consulted on the subject had steered us wrong as to whether or not the terms flat foot and flat arch were freely interchangeable? This was hard to believe, especially since, after making shore, we noticed some markings indicating previous visitors. Had someone really been here before, and failed to reveal his discovery? Well, there was only one way to find out; back to the library.

This time Lady Luck smiled on us. After a somewhat prolonged intermittent search, success came when we stumbled onto an article, "The Statics of the Human Arch When Subjected to Body Weight," By Halbert L. Dunn, M.D., in the *Military Surgeon*, vol. 52, 567, 1923. This article is a must for everyone who is concerned with foot problems. It is the most detailed, analytical, and critical discussion of the problem that has come to our attention thus far.

In part it deals directly with matters which have been discussed in this article; other parts contain excerpts, comments, and deductions as follows: "–impressions (i. e. prints) are of no value to the diagnosis of arch weakness," "–visual examination would not reveal the potentiality of a given foot," "–the term broken arch should be used entirely in place of the term flat foot, or the use of the expression, flat foot, should be reserved for only those cases showing definite symptomatic and physiologic weaknesses of the arch," and "The judgment of flat or broken arches by visual examination, or even by X-ray, is not sufficient. A functional test under added known weights should be carried out in order to verify the diagnosis."

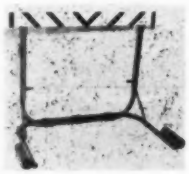
Dr. Dunn's suggestion that the term broken arch be substituted for flat foot seems extremely logical and timely, and should be adopted at once by all authors of textbooks. His comment that even an X-ray may not be sufficient to reveal a flat or broken arch is apparently also in order, although here we must consider the question of degree, i. e. to what extent it has broken. A falling arch, in its early stages, would, of course, be difficult, if not impossible to detect even by X-ray; but there should be no such difficulty in its last stage, i. e. after it has become a fallen arch. The latter situation is clearly shown in Illustration 2 which was taken by permission from an article by Morris Kaplan, M. D., and Theodore Kaplan, M. D., in *Radiology* 1935, 25, p. 485-491.

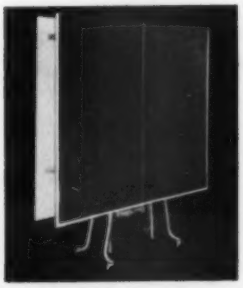
NEW ITEMS IN EQUIPMENT AND IDEAS

For further information see Service Coupon, page 68

THIS starting block has many desirable features including the rear block which shifts from the right to the left foot. There is nothing to twist or tighten in adjusting. Track and Field Equipment, Slippery Rock, Pa.

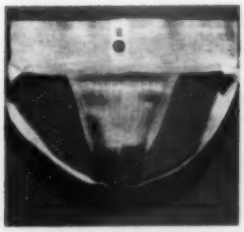
THE new Holmes Folding Hurdle is one of the niftiest track and field items to come on the market in a long time. Due to an ingenious weight distribution the overturn resistance is official at all four heights. In addition, the counter weights are removable, making it an ideal practice hurdle because it will tip over at the lightest touch. Ideal Cabinet Corp., 5036 W. Lake St., Chicago 44, Ill.





MADE of an all-welded structural steel frame and 5/8" plywood top, this folding table-tennis table is equipped with casters for rapid portability. The table is official in every way yet only requires a storage space of 5 x 1 feet. The top is painted green with regulation white lines. It is very sturdily built and constructed so it will not tip. Called the Sico Model 2100 it may be secured from Sico Mfg. Co., 6045A Pillsbury Ave., S., Minneapolis 19, Minn.

TRICOT is the new miracle fabric being used in these new 1955 Wilson football pants. It is an all-nylon knit fabric with an extremely high silken finish. This fabric has elastic qualities which provide for a snug fit, is washable and quick-drying. Its silky finish provides a difficult surface for tacklers to grasp. The material is also being featured in the new Wilson jerseys. Wilson Sporting Goods Co., 2037 N. Campbell Ave., Chicago 47, Ill.



LAUNDERING of supporters has always been a tough problem for school and college laundries because the heat in the drying process destroys the natural properties of rubber. The new Bike 4T-280 supporters are made with heat-resistant rubber threads. These heat-resistant threads help the supporter to keep its "snap" even after many hours in the dryer. Laundering costs will be reduced because now the supporters can be laundered at the same time as the towels and other clothing. Bike Web Co., 309 W. Jackson Blvd., Chicago 6, Ill.

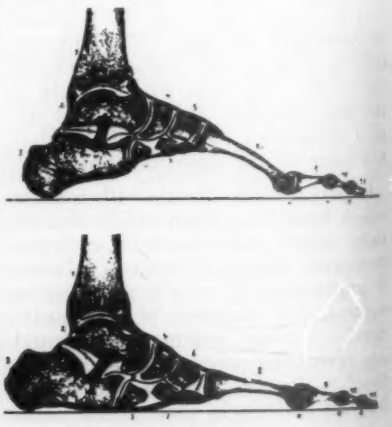
THE new 1955 Yearite catalog includes such a wide and varied assortment as tennis sweaters, jersey knit coats and pullovers, baby shaker coats and pullovers, heavy shakers, neckwarmers and scarves. Featured is the popular lapped V-neck sweater. It is made in three weights of 100 per cent pure virgin wool. It is one of the most complete catalogs devoted to sweaters to be found anywhere and it is free by checking the Service Coupon or writing Yearite Sportswear, 112-114 Bleecher St., New York 12, N. Y.

Their article is devoted to "A Consideration of the Anatomy and Physiology of the Normal Foot; The Pathology and Mechanism of Flat Foot, With the Resulting Roentgen Manifestations." The two pictures (Illustration 2) speak for themselves so effectively that no comment appears necessary, except perhaps to say that in this case the terms flat foot and flat (fallen) arch might well be used interchangeably.

From the foregoing it also seems logical to conclude that in a flat-footed athlete—especially a sprinter—the arch, if low, is not fallen or broken, but of the congenital type. A broken arch, whether partly or completely flat, is too frail to function effectively even when subjected to the body weight alone, much less when under added stress as in sprinting; while a congenital flat foot, if structurally strong, may function quite satisfactorily, not only in ordinary walking, but also under additional stress as in weight lifting, tug of war, etc., and also in activities in which a springy, resilient arch would play a minor part. However, to assume that a congenital flat foot (arch) can be as efficient in all activities as an equally well-developed properly arched foot, would, we fear, require an intemperate amount of wishful thinking.

Finally, this article has been written in the hope that it will not only convey information of some value to those who are confronted with this problem, but also help to induce authors to eliminate the flat-arch-foot-print theory in texts dealing with flat feet.

Illustration 2. Microtome section of the leg and foot. The upper represents normal arch, the lower, flattened arch. Key to numbered parts: (1) tibia; (2) astragalus; (3) os calcis; (4) scaphoid; (5) cuboid; (6) and (7) cuneiforms; (8) metatarsals; (9, 10, and 11) phalanges; (E) interphalangeal joint.



NEW FILMS

Track and Field, *16mm colored "Sport Loops." Three dollars per event or $35.00 for all 15 releases. Payton Jordan Film Enterprises, P.O. Box 619, Whittier, Calif.*

Those who have never used film loops as a teaching or coaching aid have a real surprise in store for them. The principle is a continuous loop of film that runs through the projector repeatedly showing the continuous action of one event.

The films are the finest slow motion track and field films we have ever seen. They show some of the country's greatest track and field performers and have served as the basis for "Payt" Jordan's highly successful Track and Field Clinic held each year at Occidental College.

For the first time training films have been brought within the financial reach of every school in the country. They are outstanding and we feel that there is not a better or a more economical way of teaching correct track and field fundamentals.

Judging the Dives

(Continued from page 20)

2½ for execution, and 2 to 3 points for entry, giving him a possible total of 8 points or slightly more for the dive.

Of course, the judges do not have cameras, and have to judge these phases rapidly. It can be done.

The diver shown in Illustration 3 had an awkward run and hurdle. Notice his feet. His take-off was angled too much. His lift was mediocre, execution was only fair, and the entry was short or flat. We might give 0

Illustration 4

JUST announced is the brand-new Kra-Lite helmet. It employs the same patented safety suspension hammock to be found in the familiar Riddell Tenite helmet. The difference is in the weight. The Kra-Lite weighs only 27 ounces which is approximately a half pound lighter than other helmets on the market. Also different is the fact that the paint is applied on the outside of the helmet. A new hard surface lacquer is used. John T. Riddell, Inc., 1259 N. Wood St., Chicago 22, Ill.

WIDELY acclaimed wherever it has been shown is the amazing new "Absorblo" protective padding. It was developed after lengthy research by MacGregor. Unlike many pads which incorporate various types of shock-resistant padding into the pads themselves, these pads are made almost entirely of "Absorblo." The "Absorblo" padding is used in several different models of shoulder and hip pads. The MacGregor Co., 4861 Spring Grove Ave., Cincinnati 32, Ohio.

THE Jumbo Gym-Master is approximately a third larger than the conventional size for trampolines, measuring as it does 10 by 17 feet around the frame. The bed size is 7 by 14 feet. This larger size provides greater latitude for amateur stunt work by removing the fear of landing too near the edge. It folds to 6x10x1 and the bed is of nylon woven webbing. The springs are made of the finest oil tempered steel. Fenner-Hamilton Co., 359 So. Harrison St., Denver 9, Colo.

VERY effective for recovery from a sprain is this ankle brace by Air Pad and Brace. The brace consists of a strong canvas casing, and has a Dynel wool covering on the inside of the tongue to assure comfort. On each side of the brace there is a removable pneumatic bladder which gives stability and absorbs the shock which is normally taken up by the muscular structure. It also takes the place of daily taping and is ideal in this regard because it is a time-saver and there is no irritation. Three sizes. Air Pad and Brace Co., 133 Buckeye St., Elyria, Ohio.

THIS new Wilson wrestling shoe features a lightweight sole of neoprene-nitrocrepe which is slipproof and yet extremely light. The uppers are made of soft kid leather. The new shoe also offers a tip overlay for added wear, a lightweight leather counter, and smooth leather socklining. In making the shoe the manufacturers have tried to combine proper support with the ultimate in lightness. Wilson Sporting Goods Co., 2037 North Campbell, Chicago 47, Ill.

THESE new combination high jump and pole vault standards are made of angle magnesium alloy with measuring scales die cut on one side for the high jump and on the other side for the pole vault. The high jump clamp can be taken off quickly when using the pole vault pins or can remain on. Two thumbscrews hold the upright firmly to a welded iron base. High jump scales go to 7 feet — pole vault to 15 feet. K. & P. Athletic Co., 1115 Jerome St., Midland, Mich.

ROY MERRITT graduated from William and Mary and then played professional baseball in the International League. From 1945 to 1948 he was athletic director, football, baseball, and wrestling coach at Rivers Country Day School in Boston. He then joined the staff at M.I.T. as baseball and wrestling coach, relinquishing the latter duties in 1952 when he became diving coach and freshman swimming coach. He was recently appointed assistant athletic director.

to ½ a point for the board work and hurdle, 1½ points for elevation, 1 point for execution, and 1 for entry. This diver would receive a total of 4 points for his effort.

Naturally, the human element is one factor over which we can exert very little control. Here at Massachusetts Institute of Technology we have eliminated part of this problem with the help of an undergraduate, William Eccles, who designed an electronic diving scoreboard (Illustration 4). This electrically operated device eliminates the dropping of cards and the copying of scores by judges. Scoring lights are controlled by a master switch which lights all scores simultaneously and instantly at the referee's signal.

It seems that we must soon make some effort to effect a change for the better in diving consistency. Despite argument, and some criticism of any method, perhaps the numeral segment system of scoring will prove to be the solution. Why not give it a try?

Pitching Charts

(Continued from page 16)

middle (3 out of 6 hits came in this situation.)

4. Be set for a curve strike when the count is in favor of the pitcher. This particular pitcher seldom wastes a pitch or uses a change-up. He relies on his good curve in this situation. Edge forward in the box when ahead of the pitcher.

5. The pitcher should not get himself in a hole trying to work a walk from this pitcher because he has too much control.

6. When on base, the best time to attempt a steal is when the batter is behind the pitcher and is looking for the curve ball.

Indoor Baseball Practice

(Continued from page 42)

hardest job is to maintain interest. This practice is all work and the player receives his reward only when he gets out on the playing field.

Batting Tees

The batting tee has been a standard piece of equipment for high schools and colleges for a long time. It has a definite value in the indoor baseball coaching program.

Batting tees go one step farther than the dry swinging in that the batter has an object to hit. Practice with batting tees should follow the dry swinging session.

A canvas is hung and the balls are batted into the canvas. The batting tee setup is placed in front of the plate. A batter looks to the spot where a pitcher would be throwing the ball, takes his stand, looks at the ball, and swings.

Tennis Balls

Many coaches use tennis balls for batting practice. When tennis balls are being used the pitcher can stand the regulation 60 feet away from the batter. We place a catcher at the plate and use fielders. However, one disadvantage of this type of practice is the lightness of the ball. If it should be thrown with any speed, the players may develop sore arms.

The other big disadvantage is that a tennis ball stops slowly. When this activity is taking place other activities in the gymnasium have to be stopped. Although the ball is light and soft, if it hit a player he could receive a black eye or develop quite a bruise.

In our program we use this type of training only as a diversion from the production line type of practice to relieve the monotony. We have the boys choose sides and simulate a game.

Pitching Machines

The regulation high school or small college has neither the room nor is it advisable to use a pitching machine even though batting cages are available.

College and high school players need the throwing practice that they receive by throwing to a batter. If the facilities are such that a regulation baseball can be used, whether in a

cage or outdoors, the coach should have his boys throw the ball over the plate.

However, there is one machine which fits into our program very nicely and the cost of it is less than one-tenth the price of the regulation batting machine. It fits into any indoor program and works well with the type of training that we conduct.

It is a small portable unit, 15 inches high and weighs approximately 35 pounds. This machine can be moved in and out of the gymnasium without any difficulty and can be stored easily in any supply room. No special equipment is necessary in its use.

The ball used in this machine is approximately the size of a table tennis ball and is made of light sponge rubber. It is hopper fed and the hopper holds approximately 200 balls. This machine throws better than 600 balls per hour and has five speed variations which can be adjusted for a high or low pitch, an inside or outside pitch.

We have six boys working with the batting machine. One boy is batting, one is behind the plate catching, and the other four boys will take the field to recover and try to field the balls hit by the batter. While we grant that catching a small sponge rubber ball is not similar to catching a baseball, we feel that it helps to develop the moves necessary in fielding.

We particularly like the machine because it gives us a good opportunity to analyze the players and to correct any faults. We have found that each squad member can get in approximately 25 practice swings during one of our sessions. This, of course, is considerably more than is possible in regulation batting practice.

The distance the machine is placed away from the plate is not important. This should be governed by the amount of available room.

With this machine the coach can make his corrections and at the same time watch the boys in action. In this practice the boys are using every fundamental they will use when they are actually batting a ball. Use of this machine enables the player to watch the actual flight of the ball right up to the moment that it meets the bat.

Possibly the least desirable factor about the machine is that the ball comes out without the player being able to cock his bat. In other words, there is a little different effect than watching a pitcher bring back his arm so that the batter knows the minute the ball will leave his hand. How-

ever, some coaches think this is an advantage because it has the same effect that a change-of-pace or a knuckle ball would have coming from the pitcher. We believe it cures one of the biggest faults in batting—overstriding.

Part of our batting practice includes bunting and the technique of how to hold the bat and bring the body around so that it will meet the ball properly. This operation follows the dry batting practice and then is continued by working with the machine.

The illustration at the beginning of the article shows a typical practice session. It will be noticed that we have three pitchers, batters, and catchers performing in one unit. The second station finds five fielders and one batter for the pepper game, while three are working at handball. The machine keeps a batter, catcher, and four fielders busy. Two batters are practicing dry swinging and one batter is practicing with the batting tee. Two players are receiving individual fielding instruction.

Track in the High Schools

(Continued from page 36)

remained in twenty-second place but was only one point away from tying for twentieth place. This year Michigan moves up to nineteenth place.

A year ago Louisiana and Virginia were tied for twentieth place with 35 points. Both improved but Louisiana fell a point short of Virginia's improvement and Virginia is now tied with Connecticut.

The balance of the states maintained their relative positions, with Tennessee and South Dakota moving up to tie the positions just ahead of them last year.

New Records

The onslaught on the records did not measure up to last year when 73 new records were set; however, this year's total of 62 was the second highest in the nine years of the meet. Maryland led the parade with five records. This is considerably short of the seven new records set by Maine

last year. New Mexico is way in front of the other states with the largest number of records broken over the nine-year period. Prior to the four new marks this year, 17 records had been broken previously.

Sectional Averages

Each year we have grouped the states into the nine generally accepted sections of the country. The following table shows the averages for the first two years of the meet, the averages for the meets in 1952 and 1953, last year's average, and this year's average.

	'47-'48	'52-'53	1954	1955
Pacific	30.1	35.2	33.6	43.0
W. So. Cen.	14.2	17.5	21.0	19.2
Mid. Atl.	13.3	19.9	29.1	18.4
E. No. Cen.	25.8	15.9	7.6	15.3
W. No. Cen.	8.5	7.8	3.9	5.0
Mountain	2.7	3.0	1.9	2.0
New Eng.	3.3	2.9	5.0	1.2
So. Atl.	1.1	0.7	2.2	0.9
E. So. Cen.	1.1	1.8	0.3	0.2

The interesting fact to be noticed in this table is the close similarity between this year's averages and the averages of the 1952 and 1953 meets. Also of interest is the fact that the greatest track strength of the country is concentrated in the fifteen states which comprise the first four sections named. The concentration of points among these fifteen states is becoming more pronounced with each passing year. For example, in the years 1947 and 1948 these states received 83 per cent of the points in the meet. Five years later this percentage had risen to 84.5 per cent and last year had climbed to 87.2 per cent. The current meet shows that the fifteen states in the four major track sections of the country collected 91 per cent of the total number of points.

As might be expected, the majority of these fifteen states are the most populous states. However, a third of them do not rank among the first fifteen states on a population basis. It is also of interest to notice that of these fifteen states only three failed to earn 10 or more points. These three were Louisiana, which scored 4 points, Wisconsin which only scored 1¾ points, and Arkansas which failed to score. The only state outside of these fifteen that scored more than 10 points was Kansas.

Whereas the high school track and field strength is concentrated in a limited number of states, the general improvement of performances is very noticeable. The following table shows the average times and distances for the first five years of the meet,

the average for the next two years, the average for last year, and the average for this year's meet.

Event	'47-'51	'52-'53	1954	1955
120 H.H.	15:32	15:29	15:19	15:16
180-Yd.	10:20	10:16	10:12	10:14
Mile Run	4:39.01	4:38.21	4:37.69	4:35.70
880 Yd.	1:33.65	1:33.84	1:33.82	1:33.05
440 Yd.	:52.15	51.57	51.97	51.06
880 Yd.	2:02.1	2:02.1	2:03.0	2:02.0
180 Yd.	2:02.1	2:02.0	2:03.0	2:02.0
180 L. H.*				20.23
220-Yd.	22.56	22.44	22.46	22.38
Pole	11-5 1/2	11-6	11-6	11-10 1/4
Shot	48-5	50-8 1/2	51-3	51-6 1/2
H.J.	5-8 1/6	5-11	5-11 1/2	5-11 3/4
Discus	140-4 5/8	144-4	145-3	147-4 7/8
B. Jump	21-4 3/4	21-5 1/2	21-7	21-9 1/8

*Only recently has this distance become recognized as the accepted distance for the low hurdle event.

The mile run and the field events show the greatest amount of improvement. In the 1947 meet the best discus mark was 160-2, with the sixth place distance being 148-7. In the current meet twenty states were better than the sixth place mark was in the first meet, while four marks this year were better than the first place mark in 1947. In the 1947 meet 43 per cent of the discus marks were over 140 feet. Improvement has been so pronounced that in the current meet this figure had risen to 73 per cent. In the 1947 meet only five states had winning marks over 150 feet. This was a percentage of 14 as compared to 36 per cent in the current meet.

In the shot put the improvement is almost as notable. In the first meet 29 per cent of the winning marks were over 50 feet. In the current meet the winning mark for two-thirds of the states was better than 50 feet.

As further evidence that the greatest improvement is being made in the events requiring strength and endurance we wish to point out that the average time for the mile in the 1947 meet was 4:40.03.

Accompanying the meet each year is the National High School Honor Roll compiled by E. A. Thomas for the National Federation. California continued to dominate this year's honor roll as it has all the previous ones. Seventy-three of the 158 listings were from California's schools. Eighty-seven per cent of the listings were represented by schools in the fifteen states previously mentioned. In fact, three-fifths of all the listings were from California and Texas. Arizona had four listings in the pole vault, with North High School of Phoenix having two vaulters who did 13-1. Swisshelm of Santa Ana, California was the outstanding high school track athlete last year with the best times in the low hurdles, the 220-yard dash, and the third best time in the country in the 100-yard dash.

Weight Training

(Continued from page 32)

Objections to weight training for athletes tend to center around several major points. Among these the following are most commonly cited:

1. Overdevelopment of certain muscle groups, causing a shortening of the muscles and producing the condition commonly known as muscle bound.

2. Excessive muscle development to the point where the size is a mechanical hindrance, limiting the proper range of movement.

3. Hypertonicity which causes the muscles to be so tight that movements tend to be jerky and not co-ordinated.

4. Slowing down of reaction time, thus preventing the dynamic force so necessary to athletic success.

The proponents of weight training hotly dispute these assertions. They point out numerous examples of athletes who used weight training in their rise to stardom. Opponents counter by trotting out examples of successful athletes who never used this form of training or point to unsuccessful weight men who used it. On both sides the arguments put forth were empirical. There was no scientific evidence available to back up the claims of either side. During the past few years many experiments have been directed toward a solution of these conflicting claims.

During World War II spectacular results were obtained in the physical reconditioning and rehabilitation of our wounded and disabled. Progressive resistance exercises built up their strength and endurance and materially shortened the hospitalization time. In these cases the aim was a therapeutic one. Recent studies have brought to light information which should be carefully examined by those in the coaching and physical education fields.

Edward Chui[2] investigated the effects of weight training on power, strength, and endurance on a group of weight training subjects and a control group of non-weight trainers. Both classes were selected from the students in the required physical education program at the University of Iowa and met for the same number of periods each week. The weight group followed a definite pattern of barbell and dumbbell exercises. The control group followed the regular program of games, sports, and calisthenics. Both groups were tested at the beginning and end of the three month period for ability in jumping, shot putting, and sprinting. The results showed that the weight group increased more in jumping and sprinting ability and in shot putting than did the control group.

Edward K. Capen[1] conducted a somewhat similar study, using a weight training group and a control group of students assigned to the regular conditioning class at the University of Tennessee. The test results at the beginning and end of the experiment showed no notable differences in the amount of improvement in muscular and cardio-respiratory endurance. However, in power or speed events the weight training group showed significantly higher gains. He concluded that weight training in the experimental group did not result in muscular tightness or decrease in speed of muscular contraction as is so often asserted.

William S. Zorbas and Peter V. Karpovich[6] of Springfield College measured the one-arm rotary speed used in turning a crank in the frontal plane. The control group consisted of 300 men who were not weight trainers. The experimental group consisted of 300 men who were weight lifters and body builders and who had trained with weights for at least six months and were still engaged in that activity. The end test results showed the weight training group to be significantly faster in speed of rotary arm movement than the control group. They concluded that the findings of their study were contrary to the common opinion of coaches and physical educators who believe that weight training will slow down the athlete.

Bruce M. Wilkin[5] tested the speed of movement of arm action in a group of students before and after a semester of elementary weight training and the speed of movement of a group of experienced weight lifters against a control group of non-lifters. The latter group comprised men taking golf and swimming. The results showed that weight training over the semester had no slowing down effect on the speed of arm movement in the students tested. The experienced weight lifter was not found to be muscle bound in the sense that his speed of movement was impaired. His speed was as great and he improved as much or more during a semester of training as did the golfers and swimmers. In this experiment Wilkin did not find that a semester of weight training increased speed of movement more than did a semester of participation in golf or swimming.

John W. Masley, Ara Hairabedian, and Donald N. Donaldson[3] ran an experiment with several groups of students at Pennsylvania State College against a weight training group with respect to speed, strength, and co-ordination. The results obtained refuted the contention that this form of training contributes to loss of speed of movement and co-ordination. The final tests showed that increased strength gained through a program of weight training (use of moderate poundages and increased repetitions) apparently bore some association with an increase in speed and co-ordination. However, it was not demonstrated that increased strength produced better co-ordination or more rapid movement. There were no deleterious effects due to weight training.

The general results of the above investigations show that there is little basis for the arbitrary attitude taken by many coaches and physical educators regarding weight training. In none of these investigations was weight training shown to be detrimental. In most of them the weight training group showed gains in power and strength without loss of speed or co-ordination. The advisability of this form of pre-season training might well be investigated by those coaches interested in developing weight men to their utmost capabilities.

WILLIAM GOELLNER served during World War II as a physical reconditioning officer. He started his coaching career at Western Reserve where he served as cross country and wrestling coach and assisted in track and gymnastics. He joined the physical education staff at A. & M. in 1950.

[1]Capen, Edward K., The Effect of Systematic Weight Training on Power, Strength, and Endurance. *Research Quarterly*, 21:89-93, May 1950.
[2]Chui, Edward, The Effect of Systematic Weight Training on Athletic Power. *Research Quarterly*, 21:188-94, October 1950.
[3]Masley, John W., Ara Hairabedian, and Donald N. Donaldson, Weight Training in Relation to Strength, Speed, and Co-ordination. *Research Quarterly*, 24:308-15, October 1953.
[4]Murray, James, Barbell Man Sets World Record for 35-Pound Weight Throw. *Strength and Health*, 14-15, 44-46, May 1954.
[5]Wilkin, Bruce M., The Effect of Weight Training on Speed of Movement. *Research Quarterly*, 23:361-69, October 1952.
[6]Zorbas, William S., and Peter V. Karpovich, The Effect of Weight Lifting Upon the Speed of Muscular Contractions. *Research Quarterly*, 22:145-48, May 1951.

Soft Living

(Continued from page 28)

would increase this situation in the future. There is no sound reason why healthy boys should not play in the rain or cold weather.

"Many of 'life's games' will be played under very unfavorable conditions and the person who waits for the ideal climate to operate under will soon be found at the bottom.

"Football, if it truly represents the American way of life, should be played under all kinds of weather, environments, and conditions, so the important thing is to develop in the boy the ability to make the proper adjustments to the situations in which he works. The conditions change from day to day and the person who cannot adapt is similar to the football player who can play only on fair, sunny days.

"Thus football played under all types of weather conditions is just another facet of our educational system which teaches a boy to make the proper adjustments and to live successfully under smooth and rough situations. You may rest assured that life will bring to every boy both bad and good weather, and athletics played under all conditions will help him to 'ride out' the storm and arrive 'safely' at home."

The Educational Policies Commission in its report states: "In elementary school and in junior high school there should be no 'school team' (in the varsity sense), no leagues, no tournaments, no interschool championships." For lack of anything better to do the boy acquires the habit of watching television. Breaking boys of this easily acquired habit and inducing them to come out for athletics in senior high school is a task of no mean proportions.

Through athletics and physical education the situation can be remedied. It can only be done if the leaders in these fields realize that such a situation exists and once having realized it take steps to stop coddling our youth.

Physical educators found that mass calisthenics and the swinging of Indian clubs and wands were not popular. They found that competitive games provided better conditioning, faster reflexes, both mental and physical and, above all, were popular.

Much has been said about the emotional and psychological strain placed upon an athlete in an interschool contest. We wonder if the strain would not be greater on the high school sophomore in his first interscholastic game than on a boy who has been gradually conditioned through a well-organized program during the three previous years.

At least he is being molded during his impressionable years with athletic training. If athletics are the answer to countering this softened outlook on life, let's have more athletics — not less.

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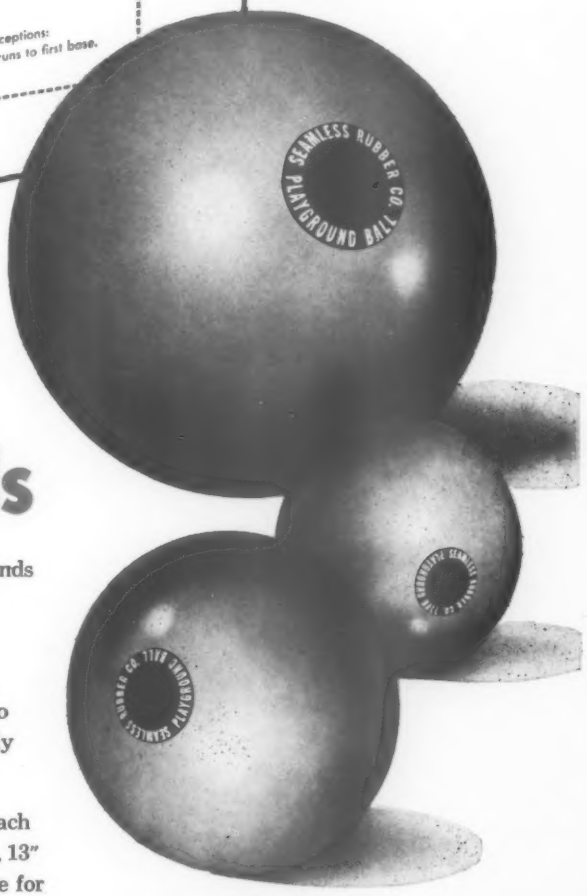

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